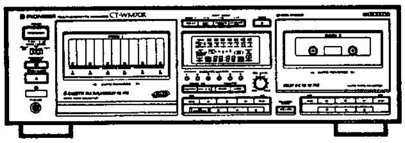
PIONEER®

The Art of Entertainment

Service Manual



ORDER NO.
ARP2496

MULTI-CASSETTE CHANGER

CT-WM70R
CT-WM60R

CT-WM70R AND CT-WM60R HAVE THE FOLLOWING:

Type	Model		Power Requirement	Remarks
	CT-WM70R	CT-WM60R		
KUC	○	○	AC120V only	
SD	○	○	AC110V, 120-127V, 220V, 240V (switchable)	

- **This manual is applicable to CT-WM70R/KUC, SD, CT-WM60R/KUC and SD.**

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This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

1. SAFETY INFORMATION

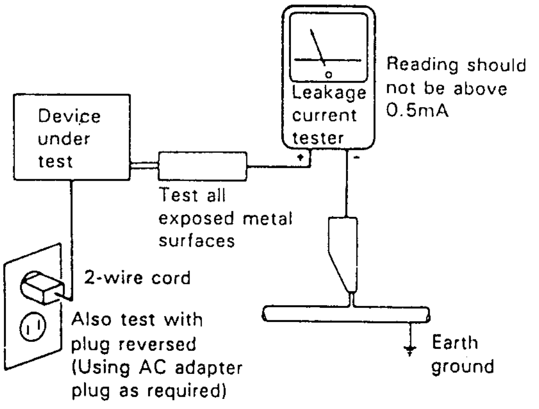
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. DISASSEMBLY

2.1 REMOVAL OF LOADING UNIT (Refer to Fig 2-1.)

1) Remove the connector 3P.
2) Take out nine screws ①, and then remove the front panel assembly.
3) Remove connectors 2P, 3P, 5P, 6P and 15P, and do also the flexible cord.
   Take out four screws ②, and then remove the loading unit.

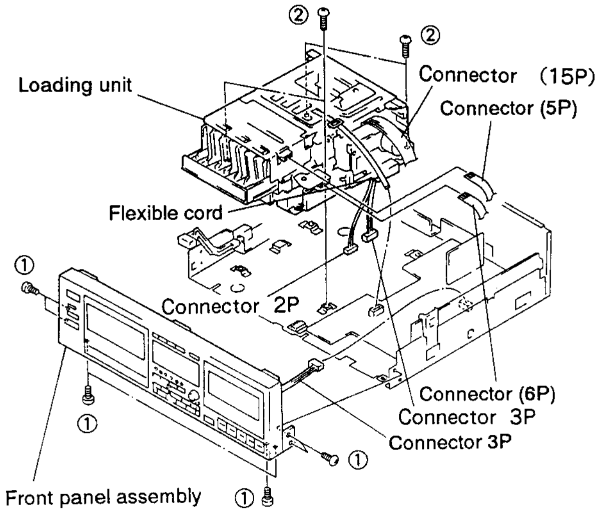

②
②
Loading unit
Connector (15P)
Connector (5P)
Flexible cord
①
Connector 2P
Connector (6P)
Connector 3P
Connector 3P
①
①
Front panel assembly
①

Fig. 2-1

2.2 REMOVAL OF CASSETTTE MECHANISM (Refer to Fig 2-2.)

1) Take out each screw ① and ②, sliding the mechanical shield plate in the direction of the arrow and then romove it.
2) Take out a screw ③ and two screws ④ to remove the cassette mechanism.

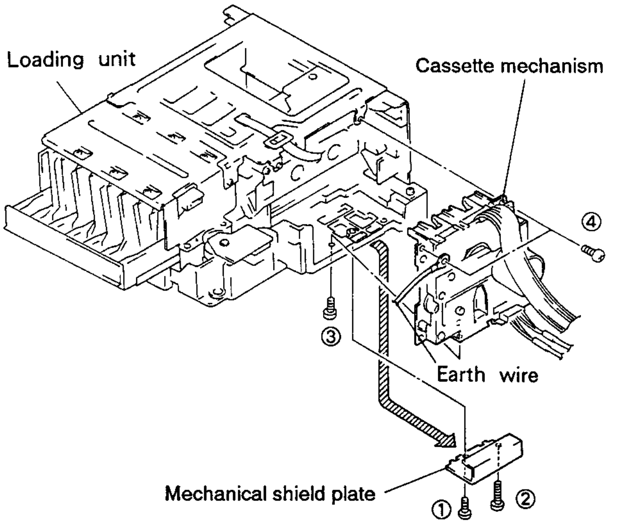

Loading unit
Cassette mechanism
④
③
Earth wire
Mechanical shield plate
①
②

Fig. 2-2

2.3 REMOVAL OF TRAY ASSEMBLY (Refer to Fig 2-3.)

1) After checking the carrier to be in the home position, open the tray by rotating the drive gear C, which is at the bottom of loading unit, in the direction of arrow (Refer to the figure A.), and pull it till it reaches to the tray stopper.
2) While keeping the tray stopper slightly bent in the direction of the arrow (Refer to figures B and C.), push the tray assembly's back side in the direction of the arrow, and pull out the tray assembly. (Refer to the figure C.)

*1: When assembling, rotate the cam gear clockwise observing from the above, and check the cam lever A to be reached to the pin of cam lever A. (Confirm that the teeth of drive gear A which is lower by one step is at the same position as figure D shows.)

*2: The tray assembly for the new changer mechanism can be removed without removing the front panel assembly.

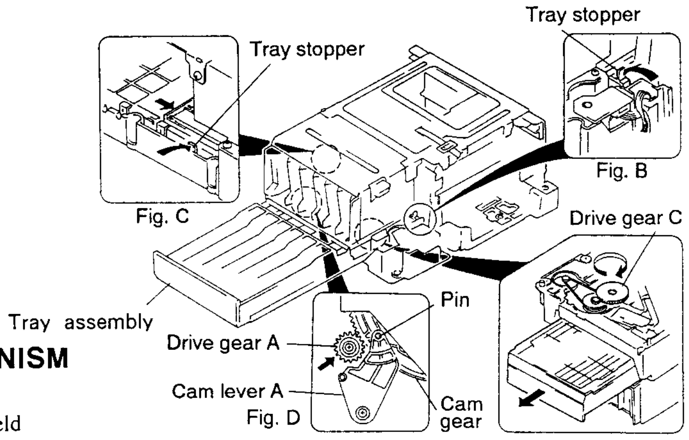

Tray stopper
Tray stopper
Fig. B
Fig. C
Drive gear C
Tray assembly
Pin
Drive gear A
Cam lever A
Fig. D
Cam gear
Fig. A

Fig. 2-3

2.4 REMOVAL OF CASSETTE HOLDER AND STOPPER-PIN (Refer to Fig 2-4 and 5.)

1) Take out two screws ① and eight screws ②, and slide the stopper to the end of the tray-base with its pin's head depressed.

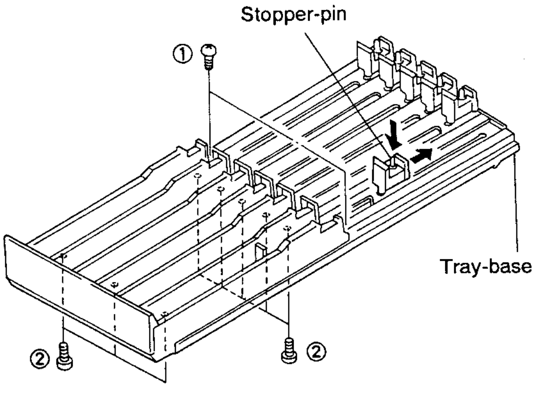

Stopper-pin
①
Tray-base
②
②

Fig. 2-4

2) Remove the tray from the tray-base. Restore the cassette holder, which has been already shifted to the end, to the forward position, and then remove it.
3) As for removal of the stopper-pin, insert the minus driver whose edge is thin into the slit which can be observed from the side, and push the hook inside to pull it upward. (Refer to figure A.)

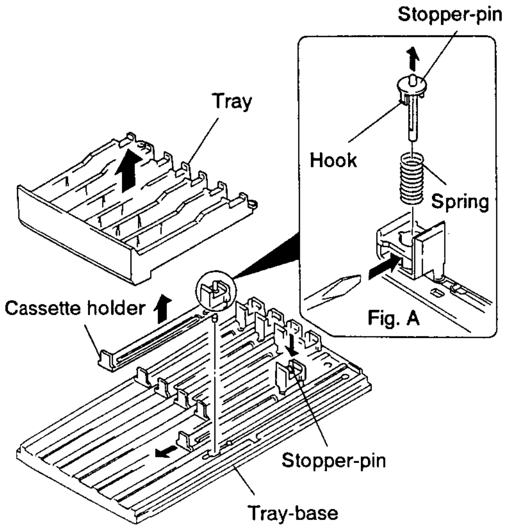

Stopper-pin
Tray
Hook
Spring
Cassette holder
Fig. A
Stopper-pin
Tray-base

Fig. 2-5

2.5 ASSEMBLY OF TRAY (Refer to Fig 2-6.)

When assembling the tray, in reverse of removal, adjust the cassette holder to the tray-base. At the same time, be sure that each boss fits to each hole on the tray-base, and tighten them with screws.

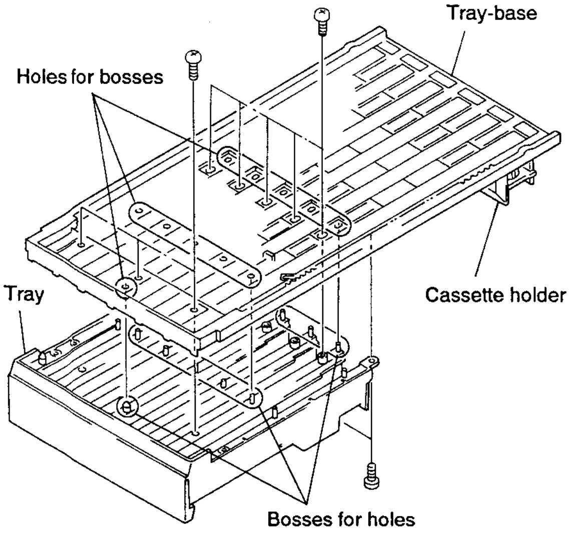

Tray-base
Holes for bosses
Tray
Cassette holder
Bosses for holes

Fig. 2-6

2.6 REMOVAL OF UPPER CHASSIS AND FRONT CHASSIS (Refer to Fig 2-7.)

1) Rotate the worm pully in the direction of the arrow to move the carrier assembly.(Refer to the figure A.)
*When assembling the upper chassis, if carrier is not moved, SW 4 crashes into the bent face. So be sure to move the carrier.(Refer to figure B.)
2) Take out three screws ① and four screws ② to remove the upper and front chassis.

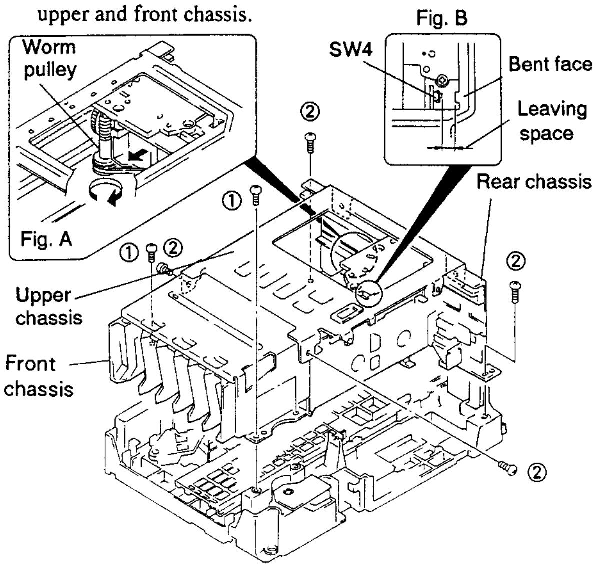


Fig. B
Worm pulley
SW4
Bent face
②
Leaving space
Rear chassis
①
Fig. A
① ②
②
Upper chassis
Front chassis
②

Fig. 2-7

2.7 REMOVAL OF CARRIER ASSEMBLY (Refer to Fig 2-8 and 9.)

1) Remove the lead holder, and also do the flexible cord.
2) Take out a screw ①, and remove the binder.
3) Take out two screws ②, and remove the rear chassis.
4) Rotate the worm pully in the direction of the arrow, and remove the carrier assembly.(Refer to the figure A.)

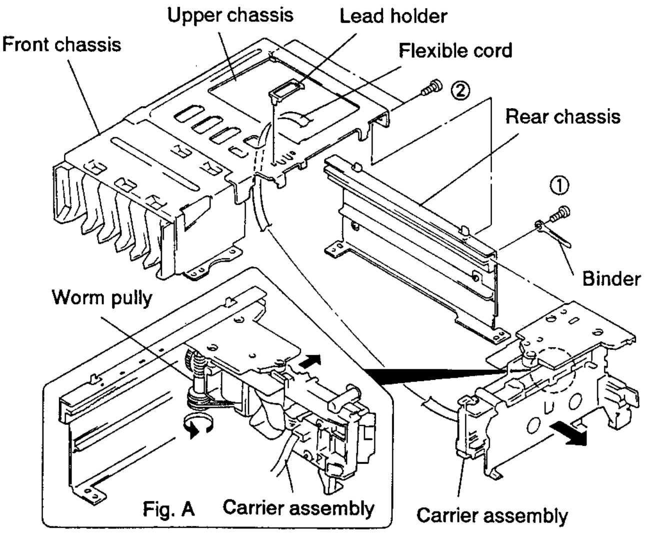

Upper chassis
Lead holder
Front chassis
Flexible cord
②
Rear chassis
①
Binder
Worm pully
Fig. A
Carrier assembly
Carrier assembly

Fig. 2-8

5) Take out three screws ③, and remove the worm cover.
6) Take out the drive belt from the motor, and then remove the worm pully together with the drive belt. (At this time, be carefull that the belt is not stained with grease.)
7) Take out a screw ④, and remove the loading gear. When only the motor should be removed, take out two screws ⑤ and desolder two points by an iron.

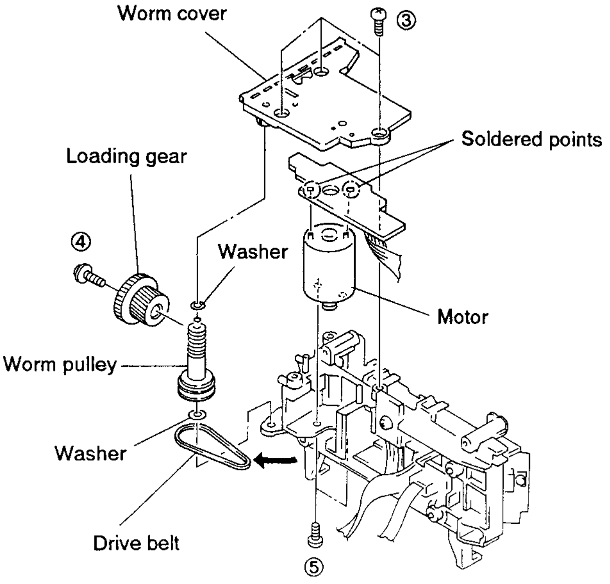

Worm cover
③
Soldered points
Loading gear
④
Washer
Motor
Worm pulley
Washer
Drive belt
⑤

Fig. 2-9

2.8 REMOVAL OF UPPER UNIT (Refer to Fig 2-10 and 11.)

1) Bent slightly hooks of the upper holder with your fingers, and remove the cassette arm.

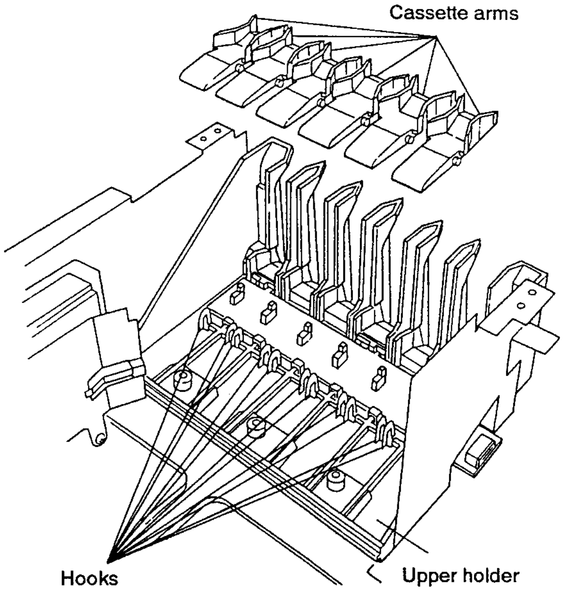

Cassette arms
Hooks
Upper holder

Fig. 2-10

2) Bend slightly three claws of the upper holder, and remove the upper unit.

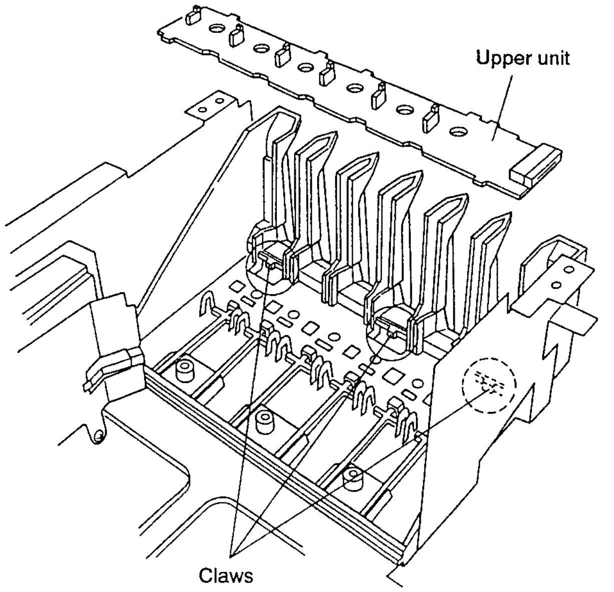

Upper unit
Claws

Fig. 2-11

2.9 REMOVAL OF DRIVE PLATE (Refer to Fig 2-12.)

1) Slightly bend the hook in the direction of the arrow, and remove the drive plate with raising it up obliquely.

*: When assembling the drive plate, in reverse of removal, raise up the hook with your fingers and set the left side of the drive plate under the hook, while adjusting the right end of it to the fixed position.At this time, check that the pin of the cam lever B is in the fixed position which can be observed from the eyehole, and also check the drive gear B is meshed with the drive plate. (Refer to figure A.)

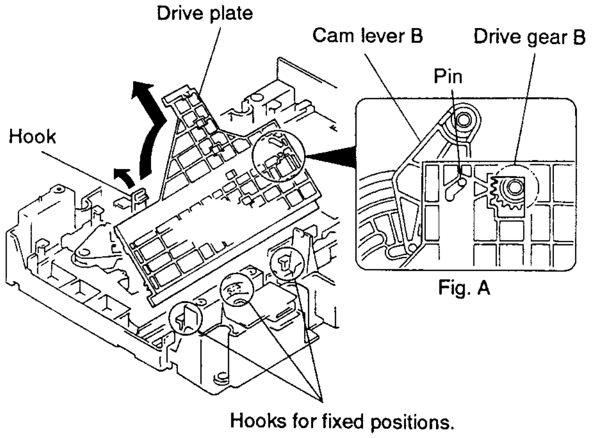

Drive plate
Cam lever B
Drive gear B
Pin
Hook
Fig. A
Hooks for fixed positions.

Fig. 2-12

2.10 REMOVAL OF DRIVE GEARS A, B, CAM GEAR, CAM LEVERS A AND B (Refer to Fig 2-13.)

1) Take out two screws ①, and remove drive gears A and B.
   Take out two screws ②, and remove cam levers A and B.
   Take out af screw ③, and remove the cam gear.

*1: When assembling the cam gear, pins of switch levers A, B and C should be adjusted to the cam groove on the rear side. As shown in the figure A, gather each lever to each point of the switch and, assemble so that the marked point of the cam gear comes to the center of the boss of the drive gear A. (The drive gear has also the marked point to be fit to cam gear's mark.) (Refer to the figure B.)

*2: When assembling cam levers A and B, check that pins of cam levers A and B fit to the groove on the cam gear's surface. (Refer to figures C and D.)

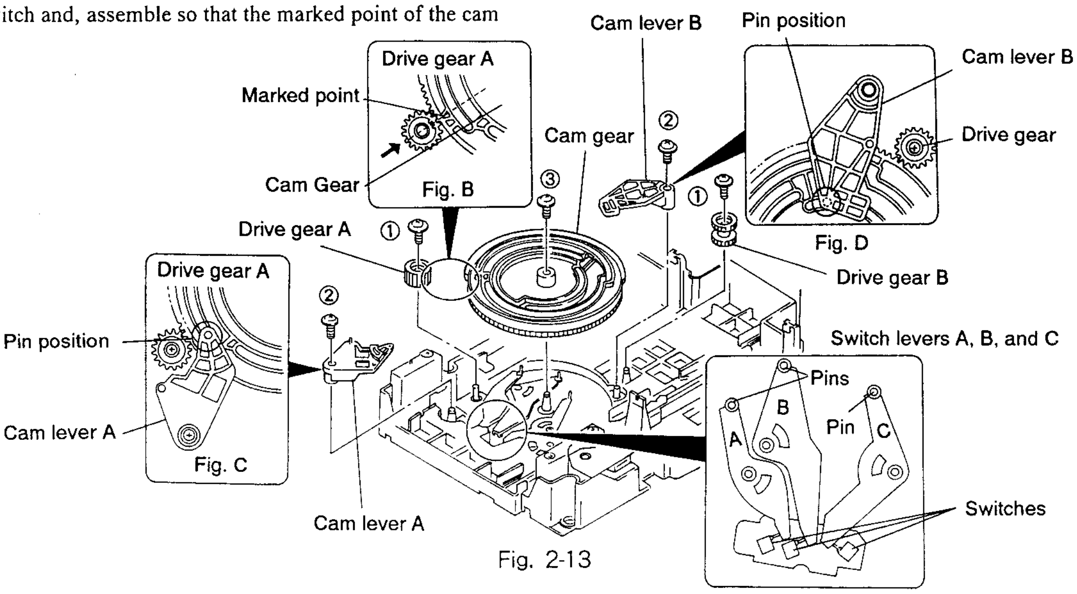

Cam lever B
Pin position
Cam lever B
Drive gear
Fig. D
Drive gear A
Marked point
Cam Gear
Fig. B
Cam gear
②
③
①
Drive gear A
①
Drive gear B
Drive gear A
②
Pin position
Cam lever A
Fig. C
Switch levers A, B, and C
Pins
B
A
Pin
C
Switches
Cam lever A
Fig. A

Fig. 2-13

2.11 REMOVAL OF SWITCH LEVERS A, B, AND C (Refer to Fig 2-14.)

1) Bend slightly the hook, which juts out from the hole, in the direction of the arrow as shown in the figure A, and remove the switch lever C. Remove switch levers A and B in the same way.

2.12 REMOVAL OF DRIVE GEAR C, PULLEY GEAR, AND O/C BELT (Refer to Fig 2-15.)

1) Reversing the loading unit, take out a screw ① and remove the drive gear C .
2) Take out O/C belt and do also a screw ② to remove the pulley gear.

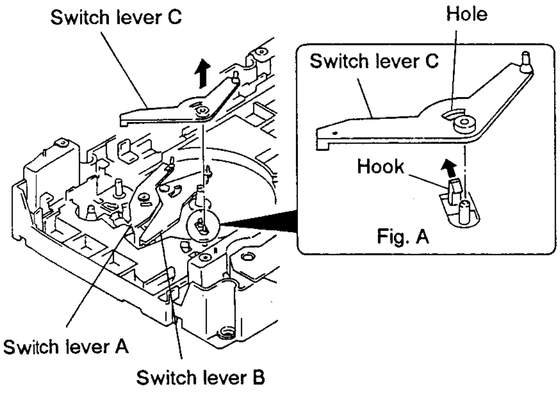

Switch lever C
Hole
Switch lever C
Hook
Fig. A
Switch lever A
Switch lever B

Fig. 2-14

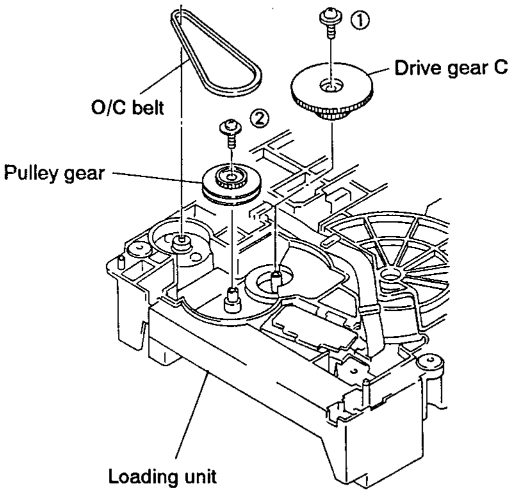

①
Drive gear C
O/C belt
②
Pulley gear
Loading unit

Fig. 2-15

3. EXPLODED VIEWS AND PARTS LIST

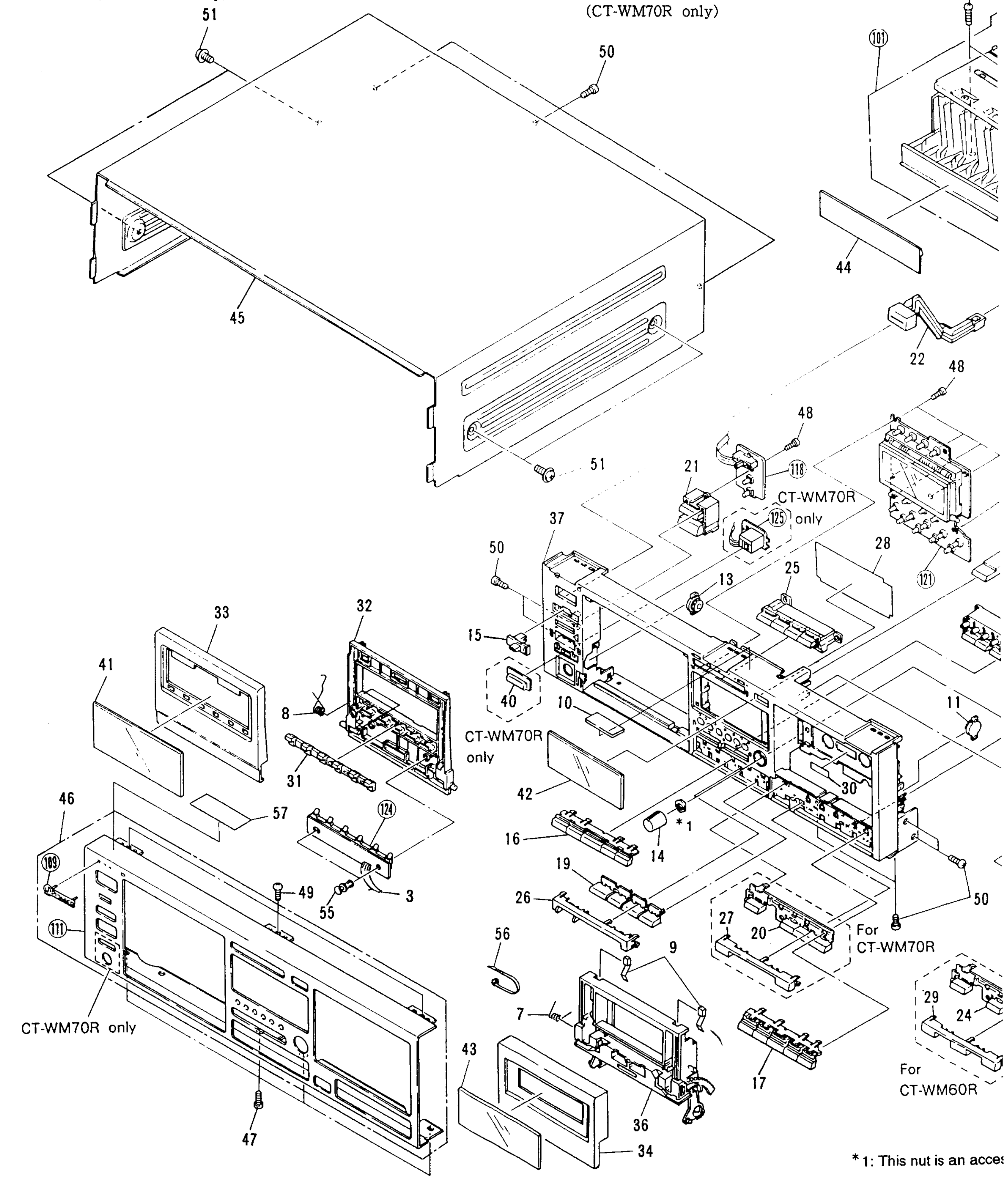
NOTES:

- The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

3.1 EXTERIOR

Parts List

Mark	No.	Description	Part No.
⚠	1	Strain relief	CM-22C
⚠	2	AC power cord	PDG1015
	3	SUMI card 7P	RDD1246
⚠	4	FU501, FU502 Fuse (1.5A)	REK1001
⚠	5	Power transformer	RTT1197
⊙	6	Mechanism unit (CT-WM70R)	RYM1159
		Mechanism unit (CT-WM60R)	RYM1160
	7	Door spring (L)	RBH1203
	8	Door coil spring (1)	RBH1317
	9	Half pressure spring	RBK1004
	10	Cushion (CR sponge)	REB1168
	11	Damper assembly	REC1013
	12	Cord clamper	RNH-184
	13	Damper assembly	VXA1153
	14	VR knob (B)	RAC1262
	15	Slide SW knob	RAC1562
	16	Operation button (1)	RAC1591
	17	Operation button (2)	RAC1592
	18	Tact button (B)	RAC1594
	19	REC button (1)	RAC1595
	20	REC button (2) (CT-WM70R only)	RAC1596
	21	Tact button (C)	RAC1598
	22	Power button	RAC1600
	23	Eject knob	RAC1692
	24	Copy button (CT-WM60R only)	RAC1694
	25	Tact button (A) (CT-WM70R)	RAC1693
		Tact button (A) (CT-WM60R)	RAC1695
	26	REC mold (1)	RAH1784
	27	REC mold (2) (CT-WM70R only)	RAH1785
	28	FL filter	RAH1788
	29	Copy mold (CT-WM60R only)	RAH2023
	30	Remain display paper	REE-113
	31	LED lens	RNK1700
	32	Door (1)	RNK1701
	33	Door cover (1)	RNK1816
	34	Door cover (2) (CT-WM70R)	RNK1817
		Door cover (2) (CT-WM60R)	RNK1818
	35	Lead cover	RNK1835
	36	Door pocket	RNT1013
	37	Panel stay	RNT1098
	38	Stopper	VEC1061
	39	Insulator	VNK1095
	40	Sensor acryl (CT-WM70R only)	VNK1566
	41	Door lens (1)	RAH1783
	42	FL lens	RAH1786
	43	Door lens (2)	RAH2024
	44	Tray plate	RNK1694
	45	Bonnet	RXX1250
	46	Front panel assembly (CT-WM70R)	RXX1484
		Front panel assembly (CT-WM60R)	RXX1485
	47	Screw	BBT30P080FZK
	48	Screw	BBZ26P080FZK
	49	Screw	BBZ30P060FZK
	50	Screw	BBZ30P080FMC
	51	Screw	FBT40P080FZK
	52	Screw	IBZ30P150FCU
	53	Screw	PMA30P060FMC
	54	Screw	BCZ26P050FMC
	55	Nylon rivet	RBM-003
	56	Binder	REC-371
	57	Caution seal	RRW1069
	101	Loading unit	RXA1463
	102	PCB spacer	PNY-404
	103	Spacer	REB1194
	104	Main chassis	RNB1073
	105	Mechanism shield plate	RNE1306
	106	Mechanism bracket	RNE1510
	107	PCB holder	RNE1511
	108	Lead holder	RNK1563
	109	Name plate	PAN1035
	110	Line clamper (CT-WM70R only)	RNK1828
	111	Front panel (CT-WM70R)	RAH2021
		Front panel (CT-WM60R)	RAH2022
	112	Rear panel (CT-WM70R)	RNA1533
		Rear panel (CT-WM60R)	RNA1534
	113	M.S. METER unit	RWZ2600
	114	TRANSISTOR (A) unit	RWZ2621
	115	TRANSISTOR (B) unit	RWZ2622
	116	TRANSISTOR (C) unit	RWZ2623
	117	POWER SW unit	RWZ2624
	118	R. O/C SW unit	RWZ2625
	119	MAIN unit (CT-WM70R)	RWZ2637
		MAIN unit (CT-WM60R)	RWZ2620
	120	H.PHONE unit (CT-WM70R only)	RWZ2638
	121	SUB 1 unit	RWZ2602
	122	SUB 2 unit (CT-WM70R)	RWZ2603
		SUB 2 unit (CT-WM60R)	RWZ2636
	123	VOLUME unit	RWZ2604
	124	DOOR IND. unit	RWZ2605
	125	REMOTE CONTROL RECEPTION unit (CT-WM70R only)	RWZ2606



*1: This nut is an acce

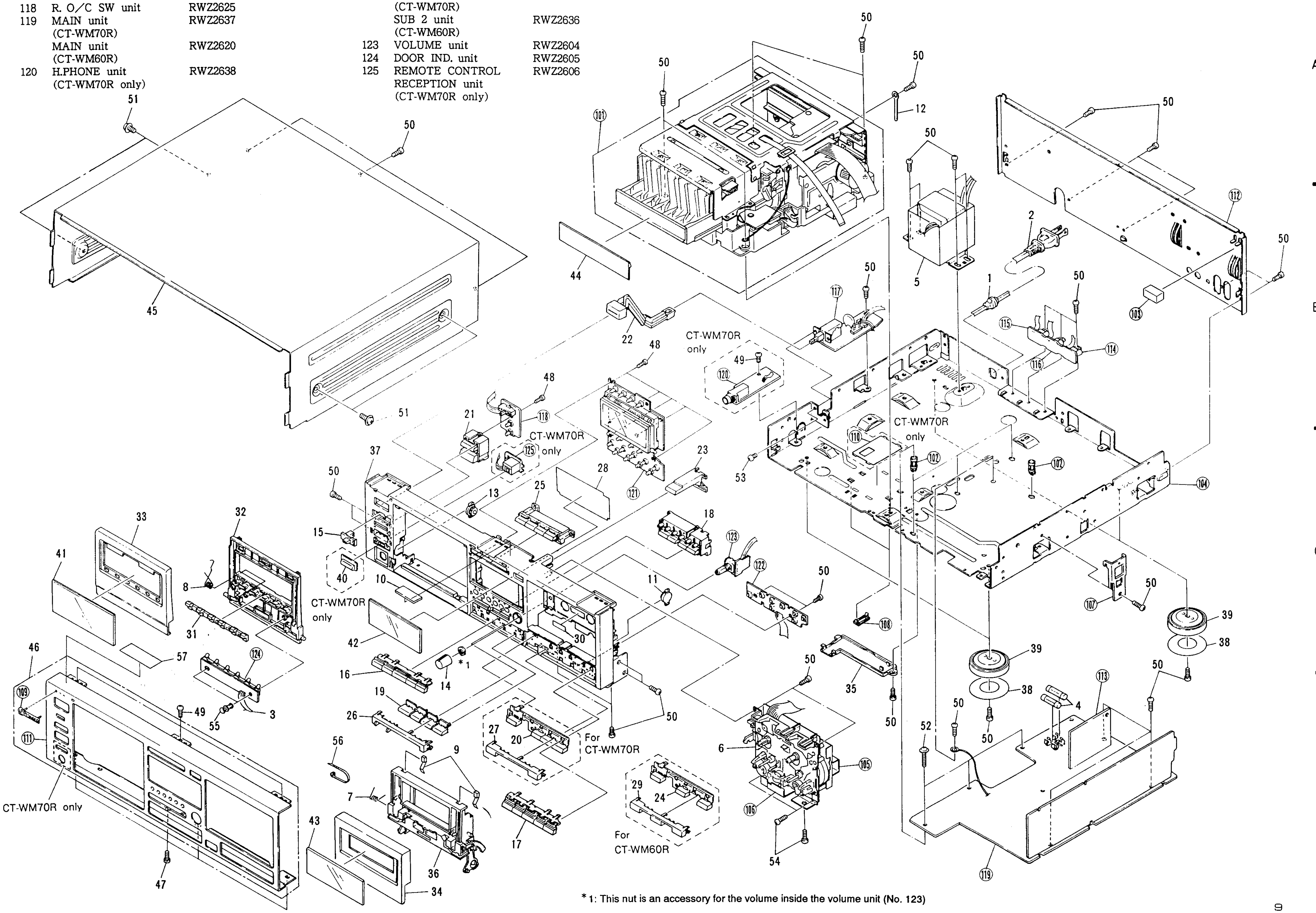
n replacing, be sure

ilable.

Part No.
NK1835
NT1013
NT1098
EC1061
NK1095
NK1566
AH1783
AH1786
AH2024
NK1694
XX1250
XX1484
XX1485
BT30P080FZK
BZ26P080FZK
BZ30P060FZK
BZ30P080FMC
BT40P080FZK
3Z30P150FCU
MA30P060FMC
CZ26P050FMC
BM-003
EC-371
RW1069
XA1463
NY-404
EB1194
NB1073
NE1306
NE1510
NE1511
NK1563
AN1035
NK1828
AH2021
AH2022
NA1533
NA1534
WZ2600
WZ2621
WZ2622

Mark	No.	Description	Part No.
	116	TRANSISTOR (C) unit	RWZ2623
	117	POWER SW unit	RWZ2624
	118	R. O/C SW unit	RWZ2625
	119	MAIN unit (CT-WM70R)	RWZ2637
		MAIN unit (CT-WM60R)	RWZ2620
	120	H.PHONE unit (CT-WM70R only)	RWZ2638

Mark	No.	Description	Part No.
	121	SUB 1 unit	RWZ2602
	122	SUB 2 unit (CT-WM70R)	RWZ2603
		SUB 2 unit (CT-WM60R)	RWZ2636
	123	VOLUME unit	RWZ2604
	124	DOOR IND. unit	RWZ2605
	125	REMOTE CONTROL RECEPTION unit (CT-WM70R only)	RWZ2606


51
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(101)
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(112)
50
(103)
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(115)
(114)
(116)
22
48
(117)
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CT-WM70R only
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(120)
48
(118)
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(125)
CT-WM70R only
(121)
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(110)
CT-WM70R only
(102)
(102)
(104)
37
50
25
13
15
40
CT-WM70R only
10
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18
(123)
(122)
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(124)
3
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(109)
(111)
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55
CT-WM70R only
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16
14
*1
30
19
26
56
9
7
36
43
34
27
20
For CT-WM70R
17
29
24
For CT-WM60R
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(119)

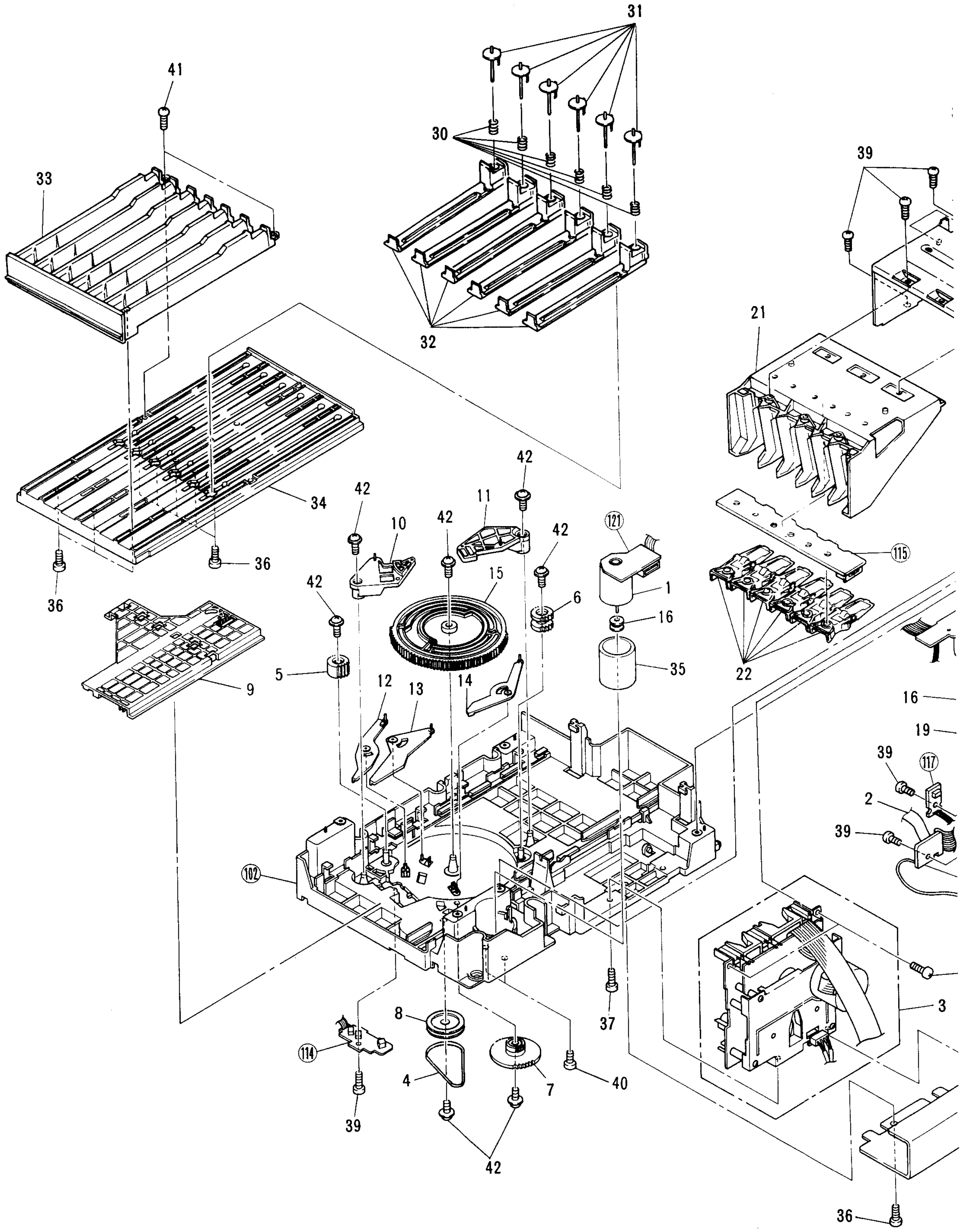
*1: This nut is an accessory for the volume inside the volume unit (No. 123)

3.2 LOADING UNIT

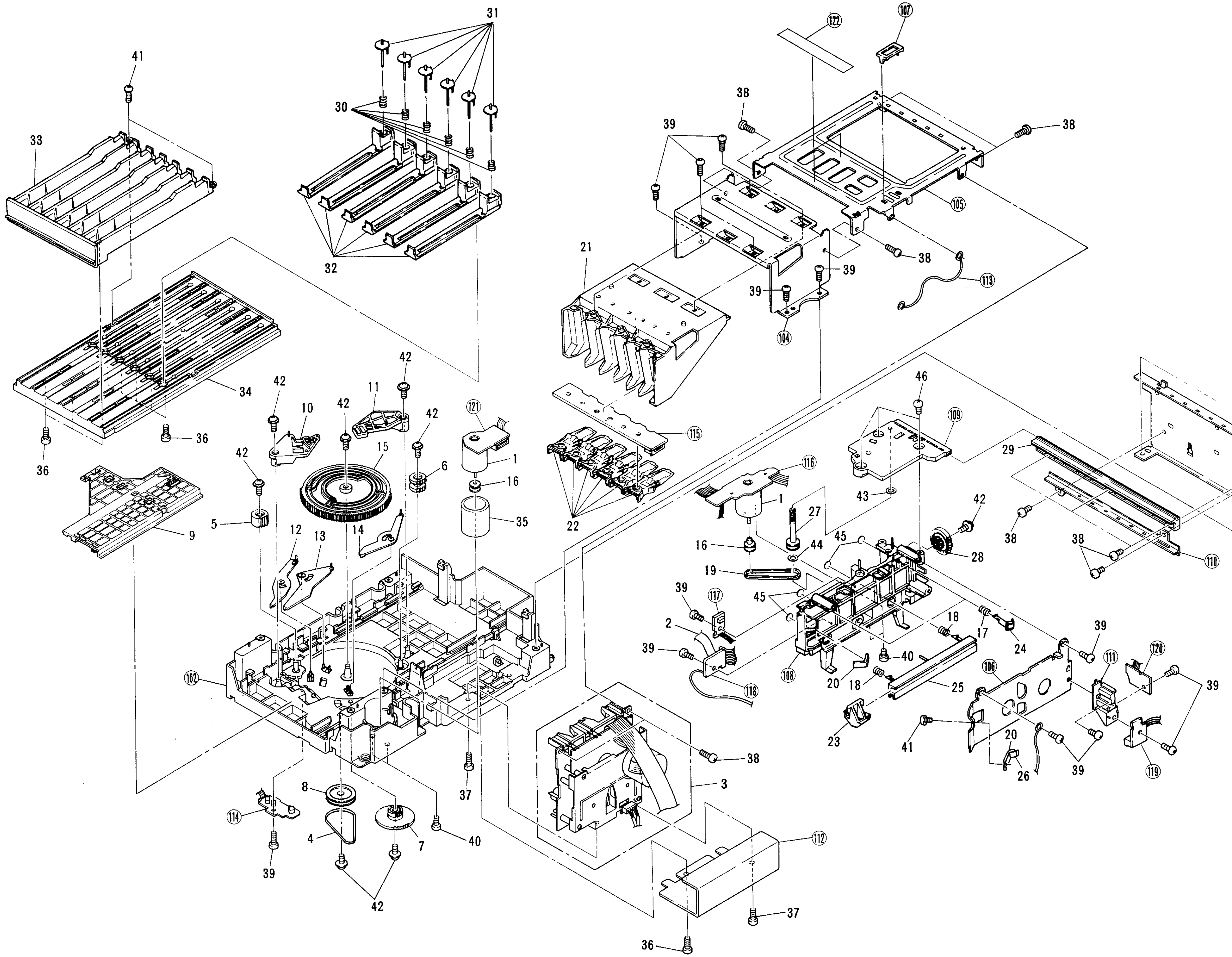
Parts List

Mark	No.	Description	Part No.
	1	Motor 1.32W	PXM1011
	2	Lead card 9P	RDD1251
⊙	3	Mechanism unit	RYM1158
	4	O/C belt	REB1183
	5	Drive gear (A)	RNK1774
	6	Drive gear (B)	RNK1775
	7	Drive gear (C)	RNK1776
	8	Pully gear	RNK1777
	9	Drive plate	RNK1781
	10	Cam lever (A)	RNK1784
	11	Cam lever (B)	RNK1785
	12	Switch lever (A)	RNK1788
	13	Switch lever (B)	RNK1789
	14	Switch lever (C)	RNK1790
	15	Cam gear	RNK1792
	16	Motor pulley	PNW1634
	17	Cassette pressure spring	RBH1247
	18	Cassette pressure spring 2	RBH1256
	19	Drive belt	REB1184
	20	Carrier felt	RED1024
	21	Upper holder	RNK1558
	22	Cassette arm	RNK1560
	23	Selector	RNK1578
	24	Cassette pressure (A)	RNK1579
	25	Cassette pressure (B)	RNK1580
	26	Cassette hold spring	RNK1773
	27	Worm pulley	RNK1778
	28	Loading gear	RNK1779
	29	Rack base	RNK1780
	30	Stopper pin spring	RBH1246
	31	Stopper pin	RNK1771
	32	Cassette holder	RNK1772
	33	Tray	RNK1783
	34	Tray base	RNK1791
	35	Shield band	RNE1373
	36	Screw	BBZ26P080FZK
	37	Screw	BBZ26P120FZK
	38	Screw	BBZ30P060FZK
	39	Screw	BBZ30P080FMC
	40	Screw	PMZ30P040FMC
	41	Screw	BPZ20P060FMC
	42	Screw	IPZ26P080FMC
	43	Washer	WA32D060D050
	44	Washer	WA42D080D050
	45	Washer	WT21D050D050
	46	Screw	IBZ30P120FCC

Mark	No.	Description	Part No.
	101	……	
	102	Bottom chassis	RNK1782
	103	Rear chassis	RNE1485
	104	Front chassis	RNE1486
	105	Upper chassis	RNE1524
	106	Carrier plate	RNE1488
	107	Lead holder	RNK1563
	108	Carrier	RNK1786
	109	Worm cover	RNK1787
	110	Sensing plate	RNK1793
	111	PCB holder	RNK1794
	112	Mechanism shield plate	RNE1306
	113	Earth lead unit	XDF-504
	114	Tray SW unit	RWZ2493
	115	Upper unit	RWZ2494
	116	CA motor unit	RWZ2495
	117	Loading SW unit	RWZ2496
	118	Relay unit	RWZ2497
	119	Cassette holder unit	RWZ2498
	120	Carrier detect unit	RWZ2499
	121	Tray motor unit	RWZ2500
	122	Condenser sheet	VEX1023



Loading Unit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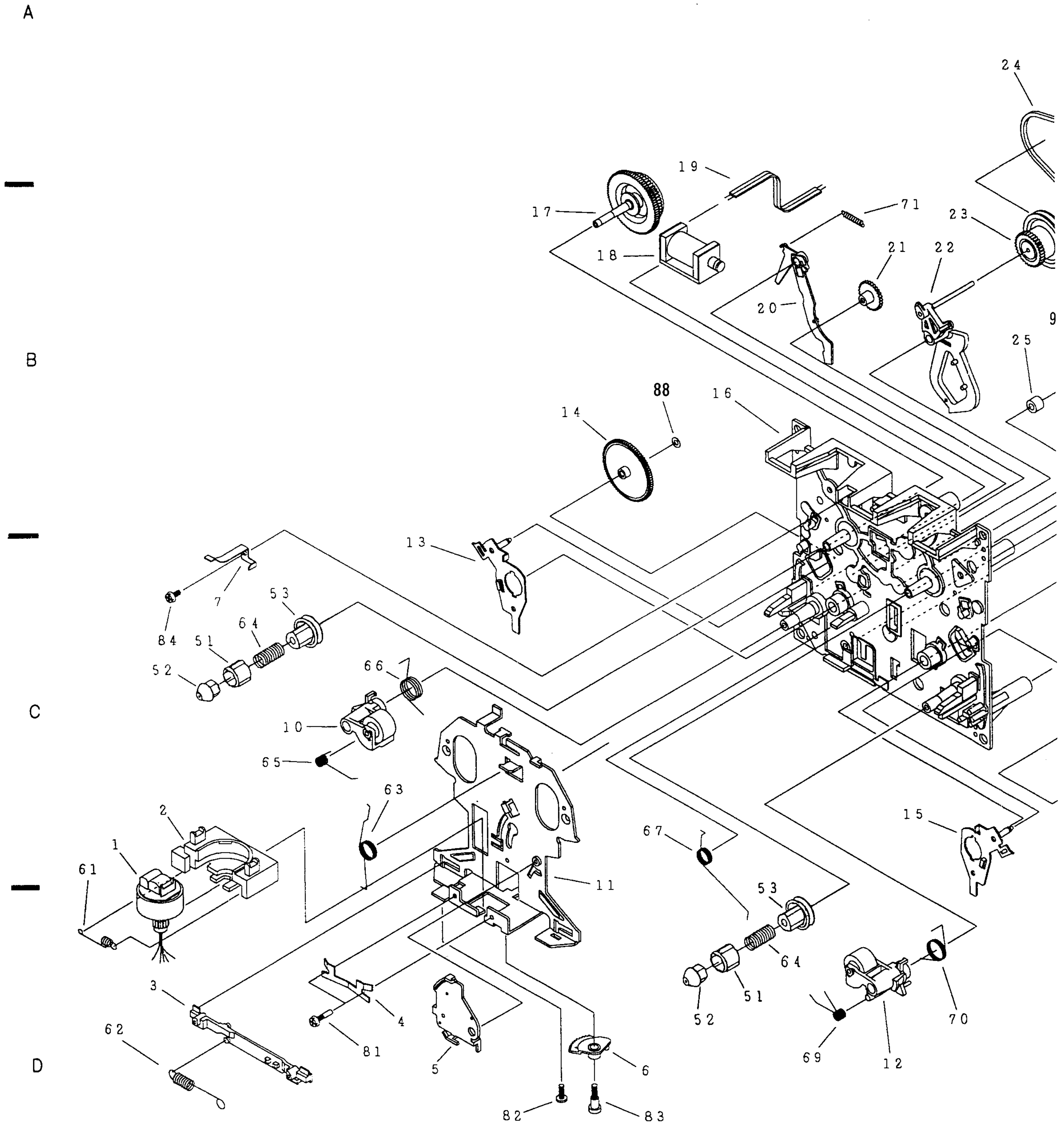
3.3 MECHANISM UNIT (DECK I)

Parts List

Mark	No.	Description	Part No.
	1	Holder head assembly	RXA1477
	2	Flame head	RNK1715
	3	Lever head	RNK1716
	4	Azimuth spring	RBK1006
	5	Arm assist assembly	RXA1401
	6	Gear arm head	RNK1717
	7	Spring cassette	RBK1046
	8	······	
	9	······	
	10	Pinch arm L assembly	RXA1403
	11	Chassis head	RNE1437
	12	Pinch arm R assembly	RXA1404
	13	Arm play L assembly	RXA1405
	14	Gear play	RNK1720
	15	Arm play R assembly	RXA1406
	16	Chassis OS.	RXA1411
	17	Sub reel L assembly	RXA1407
⚠	18	Solenoid	RXP1017
	19	Wire	RDC1006
	20	Arm RVS	RNK1721
	21	Gear FF	RNK1723
	22	Arm FR assembly	RXA1412
	23	Pulley FR assembly	RXA1413
	24	Belt FR	REB1158
	25	Metal (Shaft holder)	RNG1048
	26	Flywheel L assembly	RXA1423
	27	Metal (Shaft holder)	RNG1005
	28	Arm brake	RNK1724
	29	Sub reel R assembly	RXA1408
	30	Arm trigger	RNK1722
	31	Gear cam	RNK1725
	32	Metal (Shaft holder)	RNG1049
	33	Flywheel R assembly	RXA1424
	34	Metal (Shaft holder)	RNG1004
	35	Wire (15P)	RDD1250
	36	Holder wire	RNK1683
	37	P.C. board	RNP1435
	38	Switch mode	RSN1020
	39	Switch (leaf)	RSN1019
	40	Hall IC.	DN6851A
	41	Bracket FW	RNE1438
	42	Spacer	RNK1822
	43	Motor assembly	RXM1053
	44	Wire	RDD1012
	45	Belt main	REB1159
	46	P.C. board	RNP1348
	47	Housing	RKP1397
	48	······	
	49	······	
	50	Wire head	RKP1502
	51	Reel (A)	RNK1825
	52	Reel (B)	RNK1826
	53	Pulley reel	RNK1824
	61	Spring	RBH1282
	62	Spring	RBH1283
	63	Spring	RBH1284
	64	Spring	RBH1324
	65	Spring	RBH1288
	66	Spring	RBH1291
	67	Spring	RBH1285
	68	······	
	69	Spring	RBH1289
	70	Spring	RBH1290
	71	Spring	RBH1292
	72	Spring	RBH1061
	73	Spring	RBH1325
	81	Screw (For azimuth)	RBA1023
	82	Screw	RBA1027
	83	Screw	RBA1030
	84	Screw	PCZ20P040FMC
	85	Screw	RBA1093
	86	Screw	RBA1094
	87	Screw	RBA1100
	88	Washer	RBF1044
	89	Washer	WA16D032D025
	90	Washer	WA26D047D013

Mechanism Unit (Deck I)



Mechanism Unit (Deck I)

Part No.

K1824

H1282
H1283
H1284
H1324
H1288

H1291
H1285

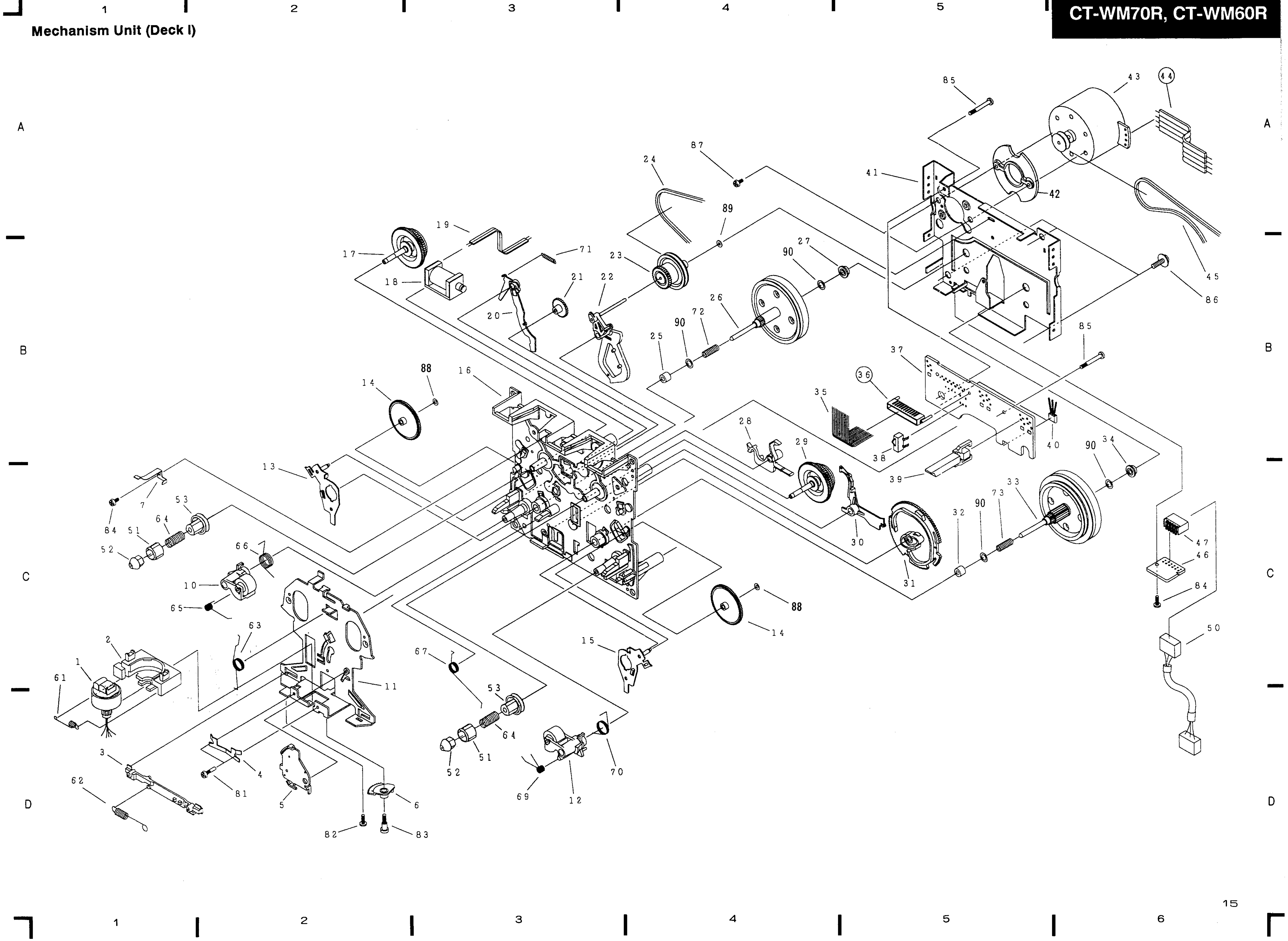
H1289
H1290

H1292
H1061
H1325

A1023
A1027
A1030
Z20P040FMC
A1093

A1094
A1100

F1044
A16D032D025
A26D047D013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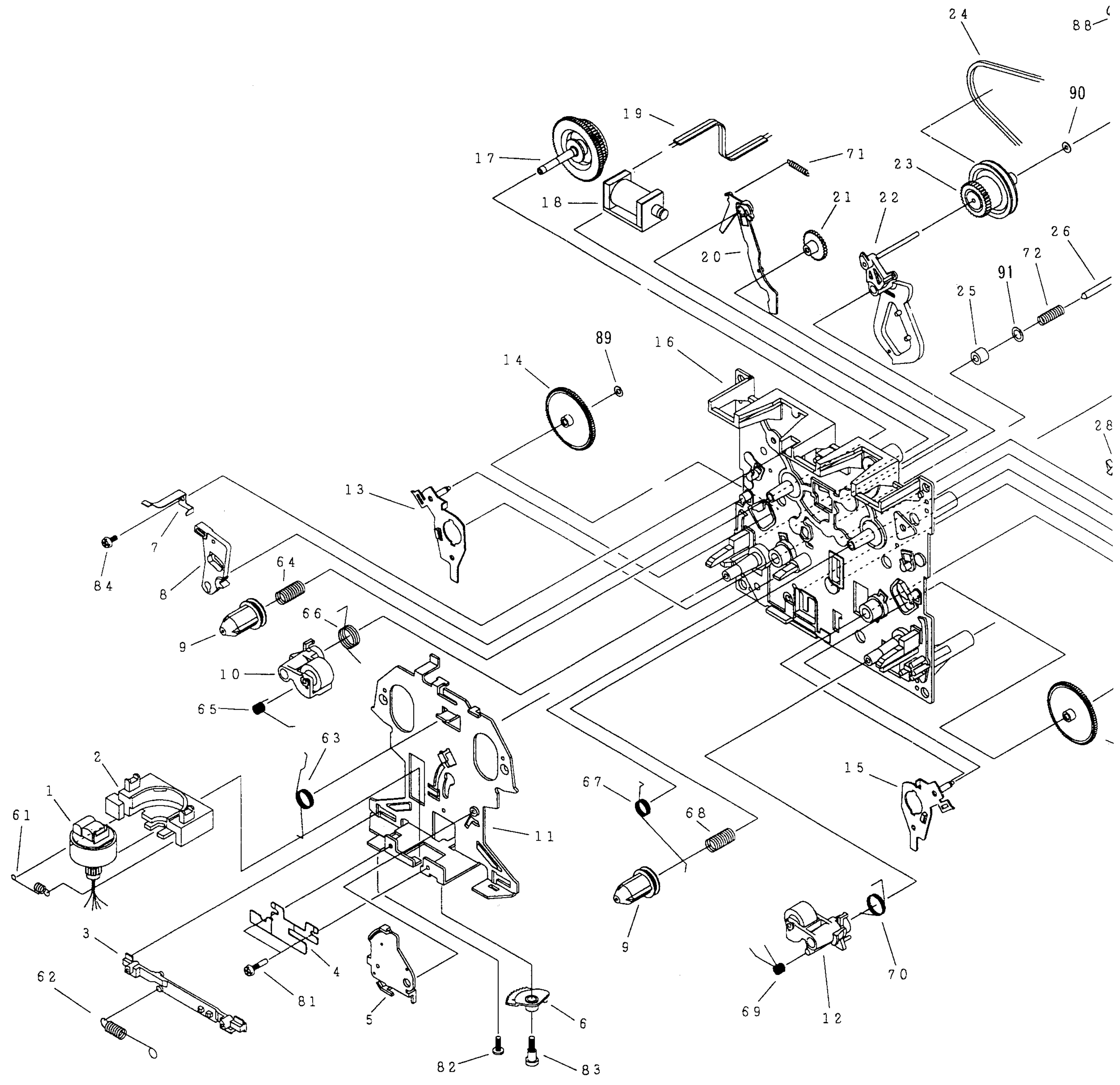
3.4 MECHANISM UNIT (DECK II)

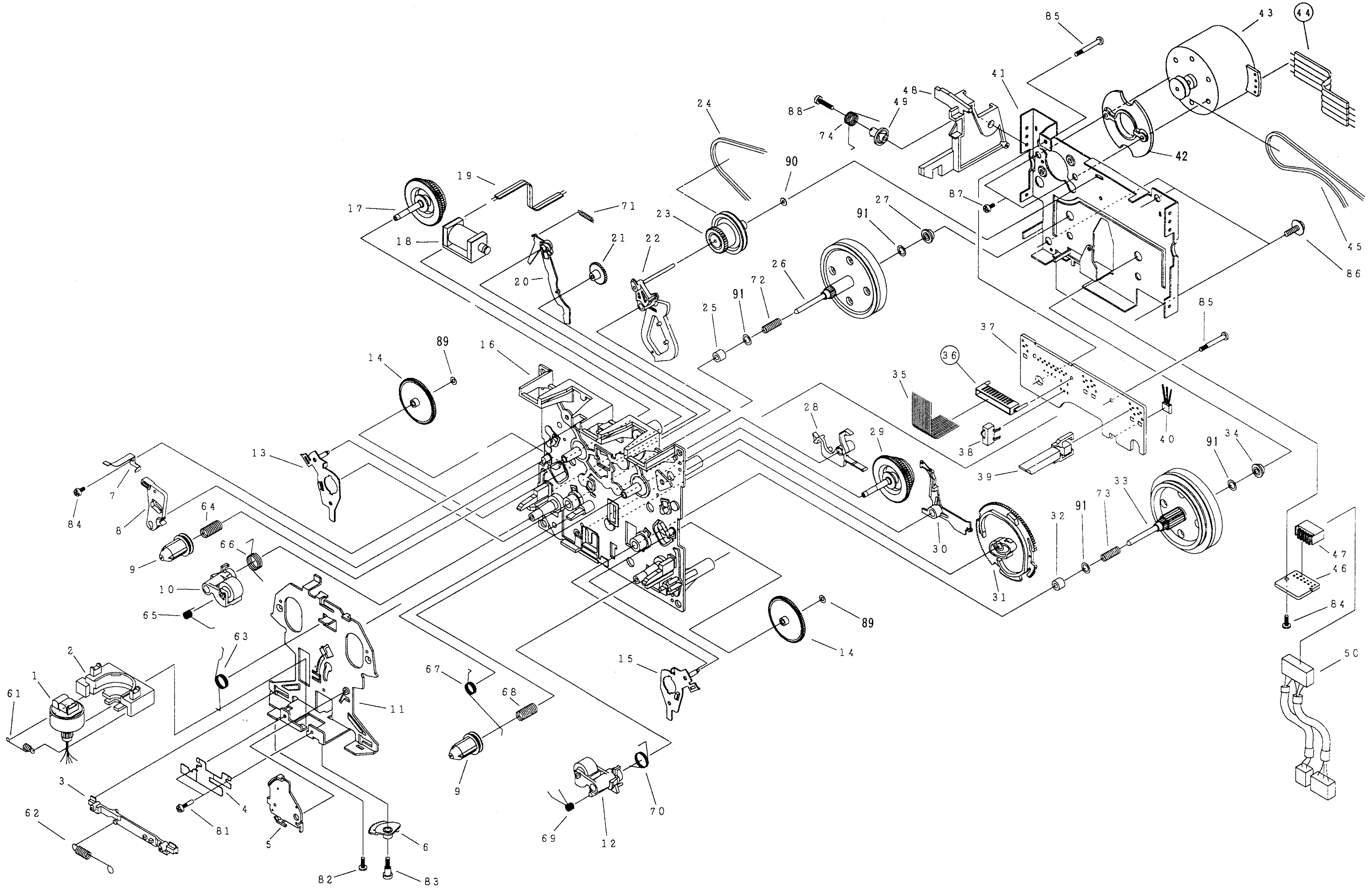
Parts List

Mark	No.	Description	Part No.
	1	Holder head assembly (CT-WM70R)	RXA1416
		Holder head assembly (CT-WM60R)	RXA1400
	2	Flame head	RNK1715
	3	Lever head	RNK1716
	4	Azimuth spring	RBK1045
	5	Arm assist assembly	RXA1401
	6	Gear arm head	RNK1717
	7	Spring cassette	RBK1039
	8	Eject lock	RNK1718
	9	Cap reel	RNK1719
	10	Pinch arm L assembly	RXA1403
	11	Chassis head	RNE1437
	12	Pinch arm R assembly	RXA1404
	13	Arm play L assembly	RXA1405
	14	Gear play	RNK1720
	15	Arm play R assembly	RXA1406
	16	Chassis OS.	RXA1411
	17	Sub reel L assembly	RXA1407
⚠	18	Solenoid	RXP1017
	19	Wire	RDC1006
	20	Arm RVS	RNK1721
	21	Gear FF	RNK1723
	22	Arm FR assembly	RXA1412
	23	Pulley FR assembly	RXA1413
	24	Belt FR	REB1158
	25	Metal (Shaft holder)	RNG1048
	26	Flywheel L assembly	RXA1423
	27	Metal (Shaft holder)	RNG1005
	28	Arm brake	RNK1724
	29	Sub reel R assembly	RXA1408
	30	Arm trigger	RNK1722
	31	Gear cam	RNK1725
	32	Metal (Shaft holder)	RNG1049
	33	Flywheel R assembly	RXA1424
	34	Metal (Shaft holder)	RNG1004
	35	Wire (14P) (CT-WM70R)	RDD1217
		Wire (12P) (CT-WM60R)	RDD1249
	36	Holder wire	RNK1683
	37	P.C. board	RNP1436
	38	Switch mode	RSN1020
	39	Switch (leaf)	RSN1019
	40	Hall IC.	DN6851A
	41	Bracket FW	RNE1438
	42	Spacer	RNK1822
	43	Motor assembly	RXM1053
	44	Wire	RDD1012
	45	Belt main	REB1159
	46	P.C. board	RNP1348
	47	Housing (CT-WM70R)	RKP1397
		Housing (CT-WM60R)	RKP1396
	48	Eject lever L	RNK1702
	49	Collar	RNK1704
	50	Wire head (CT-WM70R)	RKP1503
		Wire head (CT-WM60R)	RKP1499
	61	Spring	RBH1282
	62	Spring	RBH1283
	63	Spring	RBH1284
	64	Spring	RBH1286
	65	Spring	RBH1288
	66	Spring	RBH1291
	67	Spring	RBH1285
	68	Spring	RBH1287
	69	Spring	RBH1289
	70	Spring	RBH1290
	71	Spring	RBH1292
	72	Spring	RBH1061
	73	Spring	RBH1325
	74	Spring	RBH1294
	81	Screw (For azimuth)	RBA1023
	82	Screw	RBA1027
	83	Screw	RBA1030
	84	Screw	PCZ20P040FMC
	85	Screw	RBA1093
	86	Screw	RBA1094
	87	Screw	RBA1100
	88	Screw	RBA1095
	89	Washer	RBF1044
	90	Washer	WA16D032D025
	91	Washer	WA26D047D013

Mechanism Unit (Deck II)



Mechanism Unit (Deck II)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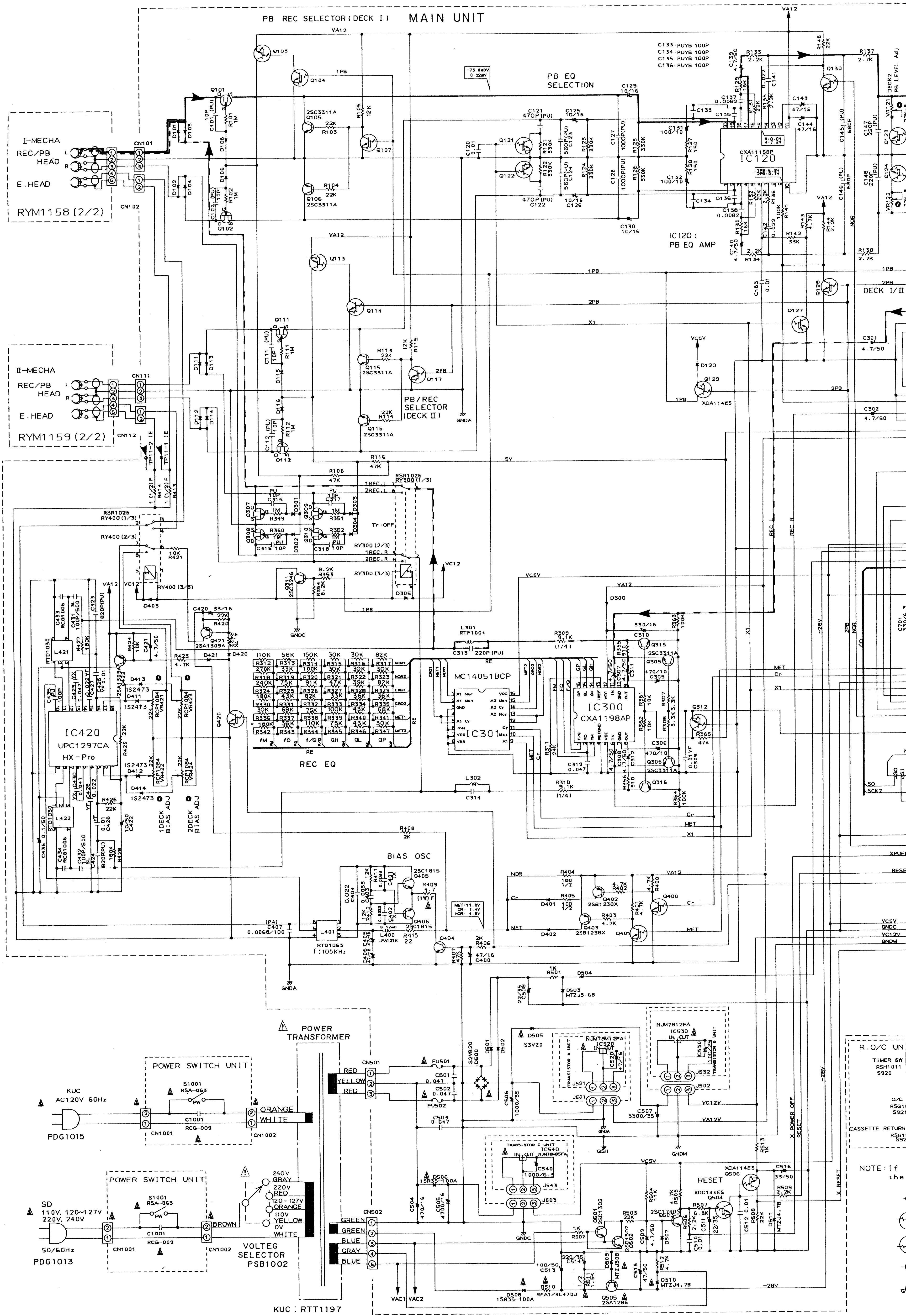
4. SCHEMATIC AND PCB CONNECTIONS DIAGRAMS

SCHEMATIC DIAGRAMS FOR CT-WM70R



1
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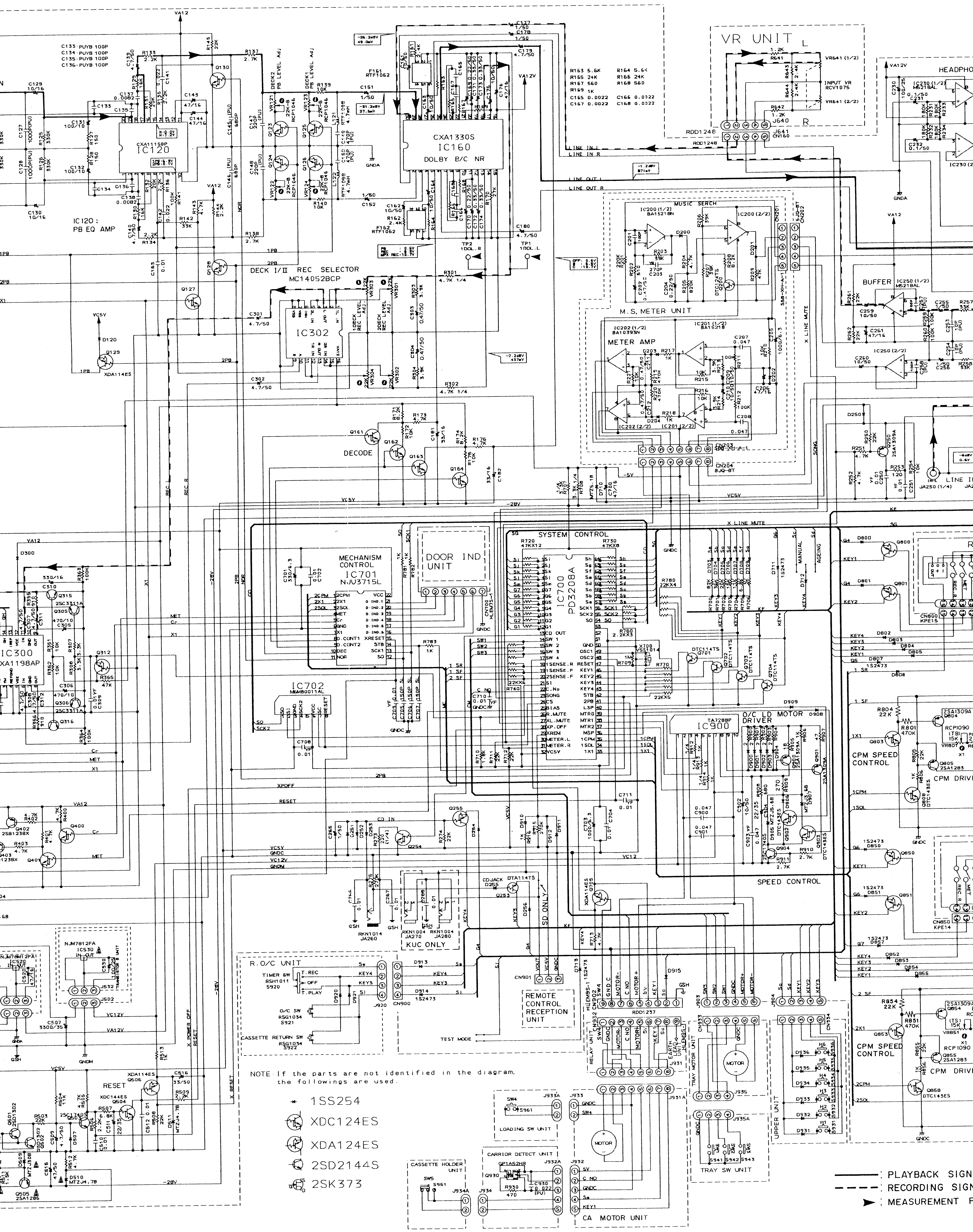
MAIN UNIT
PB REC SELECTOR (DECK I)
VA12
PB EQ SELECTION
C133: PUYB 100P
C134: PUYB 100P
C135: PUYB 100P
C136: PUYB 100P
CXA1158P
IC120
IC120 : PB EQ AMP
DECK2 PB LEVEL Adj
DECK I/II
I-MECHA
REC/PB HEAD
E.HEAD
RYM1158 (2/2)
CN101
CN102
II-MECHA
REC/PB HEAD
E.HEAD
RYM1159 (2/2)
CN111
CN112
PB/REC SELECTOR (DECK II)
GNDA
Q101
Q102
Q103
Q104
Q105 2SC3311A
Q106 2SC3311A
Q107
Q111
Q112
Q113
Q114
Q115 2SC3311A
Q116 2SC3311A
Q117
Q121
Q122
Q123
Q124
Q127
Q128
Q129 XDA114ES
Q130
D120
VC5V
1PB
2PB
X1
-5V
RSR1026 RY300 (1/3)
RSR1026 RY400 (1/3)
RY400 (2/3)
RY400 (3/3)
RY300 (2/3)
RY300 (3/3)
1REC.L
2REC.L
1REC.R
2REC.R
Tr: OFF
VC12
D305
D403
IC420
UPC1297CA
HX-Pro
L421 RTD1030
L422 RTD1030
1DECK BIAS ADJ
2DECK BIAS ADJ
REC EQ
MC14051BCP
IC301
IC300
CXA1198AP
L301 RTF1004
L302
C313 220P (PU)
C314
BIAS OSC
Q405 2SC1815
Q406 2SC1815
L401 RTD1065 f: 105KHz
L400 LFA121K
MET: 11.0V
Cr: 7.4V
NOR: 4.8V
NOR
Cr
MET
Q400
Q401
Q402 2SB1238X
Q403 2SB1238X
Q404
GNDA
XPOFF
RESET
VC5V
GNDC
VC12V
GNDM
POWER TRANSFORMER
POWER SWITCH UNIT
KUC
AC120V 60Hz
PDG1015
S1001 RSA-063
C1001 RCG-009
CN1001
CN1002
ORANGE
WHITE
SD
110V, 120~127V
220V, 240V
50/60Hz
PDG1013
BROWN
240V
GRAY
220V
RED
120-127V
ORANGE
110V
YELLOW
0V
WHITE
VOLTEG SELECTOR PSB1002
CN501
RED
YELLOW
RED
CN502
GREEN
GREEN
BLUE
GRAY
BLUE
FU501
FU502
C501 0.047
C502 0.047
C503 0.047
S2VB20 D500
S5V20 D505
TRANSISTOR A UNIT
NJM7812FA IC520
TRANSISTOR B UNIT
NJM7812FA IC530
TRANSISTOR C UNIT
NJM7805FA IC540
J501
J502
J503
J521
J532
J543
C506 1000/35
C507 3300/35
VC12V
VA12V
GNDA
GNDM
GSH
VAC1
VAC2
RESET
Q506 XDA114ES
Q504 XDC144ES
Q505 2SA1286
Q501 2SD1302
Q502 2SD1302
D506 1SR35-100A
D508 1SR35-100A
D510 MTZJ4.7B
D503 MTZJ3.6B
-28V
X POWER OFF
X RESET
R.O/C UNIT
TIMER SW RSH1011 S920
O/C RSG1 S921
CASSETTE RETURN RSG1 S92
NOTE: If the

KUC : RTT1197
SD : RTT1198

	KUC	SD
FU501 FU502	REK1001 1.5A/125V	REK-102 T1.6AL 250V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VA12
IC120 : PB EQ AMP
CXA1115BP
IC120
CXA1330S
IC160
DOLBY B/C NR
DECK2 PB LEVEL Adj
DECK1 PB LEVEL Adj
VR UNIT L
INPUT VR RCV1075
HEADPHO
DECK I/II REC SELECTOR
MC14052BCP
IC302
MUSIC SERCH
IC200 (1/2) BA15218N
IC200 (2/2)
M.S.METER UNIT
METER AMP
IC202 (1/2) BA10393N
IC201 (1/2) BA15218
BUFFER
IC250 (1/2) M5218AL
IC250 (2/2)
LINE IN L
LINE IN R
LINE OUT L
LINE OUT R
DECODE
X LINE MUTE
LINE IN
IC300
CXA1198AP
MECHANISM CONTROL
IC701
NJU3715L
DOOR IND UNIT
SYSTEM CONTROL
IC700
PD3208A
IC702
M6M80011AL
O/C LD MOTOR DRIVER
TA7288P
IC900
SPEED CONTROL
CPM SPEED CONTROL
CPM DRIVE
RESET
NJM7812FA
IC530
KUC ONLY
CDJACK
SD ONLY
R.O/C UNIT
TIMER SW RSH1011 S920
T.REC
OFF
T.PLAY
O/C SW RSG1034 S921
CASSETTE RETURN SW RSG1034 S922
TEST MODE
REMOTE CONTROL RECEPTION UNIT
RELAY UNIT
TRAY MOTOR UNIT
MOTOR
UPPER UNIT
TRAY SW UNIT
LOADING SW UNIT
CASSETTE HOLDER UNIT
CARRIOR DETECT UNIT
GP1A52HR
CA MOTOR UNIT
EARTH LEAD UNIT
MANUAL
AGEING
SONG

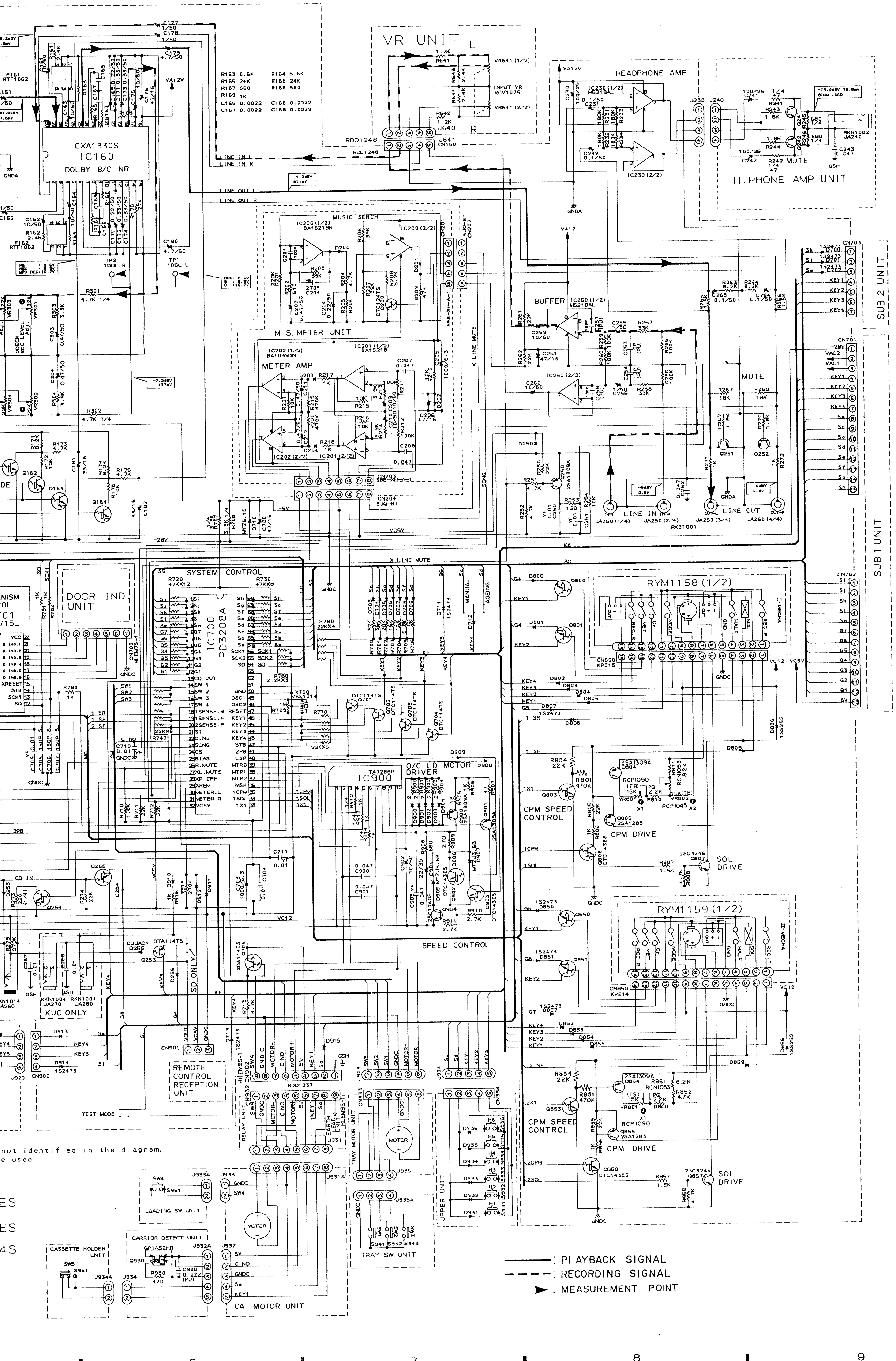
NOTE: If the parts are not identified in the diagram, the followings are used.

- 1SS254
- XDC124ES
- XDA124ES
- 2SD2144S
- 2SK373

———— : PLAYBACK SIGN

- - - - : RECORDING SIGN

➤ : MEASUREMENT P


A
B
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F
VR UNIT L
R
INPUT VR RCV1075
HEADPHONE AMP
IC230 (1/2) M5218AL
IC230 (2/2)
H.PHONE AMP UNIT
MUTE
CXA1330S
IC160
DOLBY B/C NR
R163 5.6K R164 5.6K
R165 24K R166 24K
R167 560 R168 560
R169 1K
C165 0.0022 C166 0.0022
C167 0.0022 C168 0.0022
LINE IN L
LINE IN R
LINE OUT L
LINE OUT R
MUSIC SERCH
IC200 (1/2) BA15218N
IC200 (2/2)
M.S. METER UNIT
METER AMP
IC202 (1/2) BA10393N
IC201 (1/2) BA15218
BUFFER
IC250 (1/2) M5218AL
IC250 (2/2)
X LINE MUTE
LINE IN
LINE OUT
RKB1001
SUB 2 UNIT
SUB 1 UNIT
SYSTEM CONTROL
IC700
PD3208A
DOOR IND UNIT
RYM1158 (1/2)
RYM1159 (1/2)
IC900 TA7288P
O/C LD MOTOR DRIVER
SPEED CONTROL
CPM SPEED CONTROL
CPM DRIVE
SOL DRIVE
KUC ONLY
SD ONLY
REMOTE CONTROL RECEPTION UNIT
TEST MODE
RELAY UNIT
TRAY MOTOR UNIT
UPPER UNIT
LOADING SW UNIT
CARRIER DETECT UNIT
CASSETTE HOLDER UNIT
CA MOTOR UNIT
TRAY SW UNIT
MOTOR
PLAYBACK SIGNAL
RECORDING SIGNAL
MEASUREMENT POINT

not identified in the diagram,
e used.

ES

ES

4S

1. RESISTORS :
   Indicated in Ω, 1/4W, 1/6W, 1/8W, ± 5 % tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ± 1%, (G) ; ± 2%, (K) ; ± 10%, (M) ; ± 20 % tolerance.

2. CAPACITORS :
   Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :
   ▭ ; DC voltage (V) at no input signal.
   ← mA ; DC current at no input signal.

4. OTHERS :
   → ; Signal route.
   ⊘ ; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES (Underline indicates switch posit

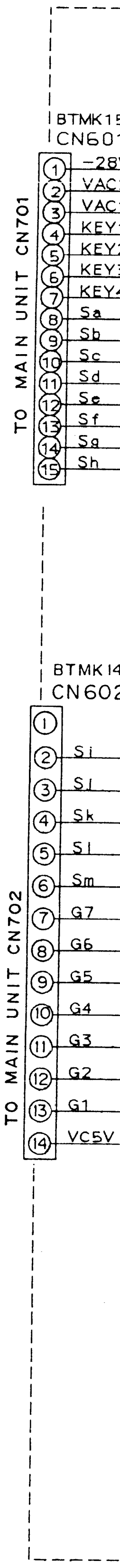
POWER SWITCH UNIT
S1001 : POWER ON – OFF

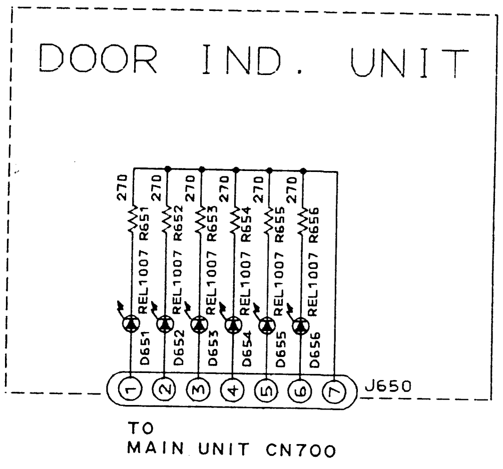
SUB 1 UNIT
S601 : F.F
S602 : DOL. MEMO
S603 : 1
S604 : REW
S605 : CD. SYNC
S606 : RELAY
S607 : OFF/B/C
S608 : 2
S609 : REV
S610 : R. MUTE
S611 : EDIT
S612 : 5
S613 : C. RESET
S614 : 3
S615 : STOP
S616 : PAUSE
S617 : NOR. COPY
S618 : 6
S619 : C. MODE
S620 : 4
S621 : FWD
S622 : REC
S623 : HI-SF

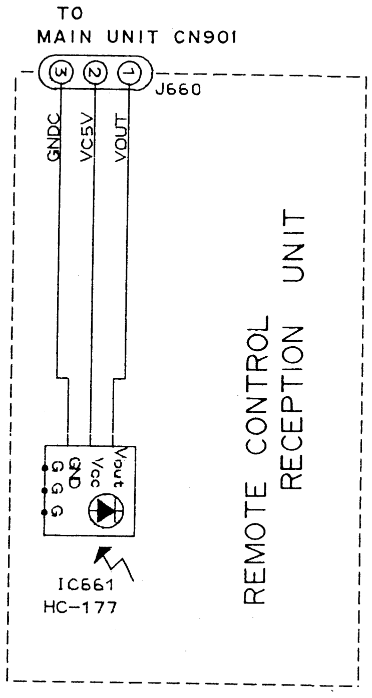
SUB 2 UNIT
S631 : REV
S632 : REV.
S633 : REW
S634 : STOF
S635 : R. MU
S636 : FWD
S637 : PAUS
S638 : F.F
S639 : REC

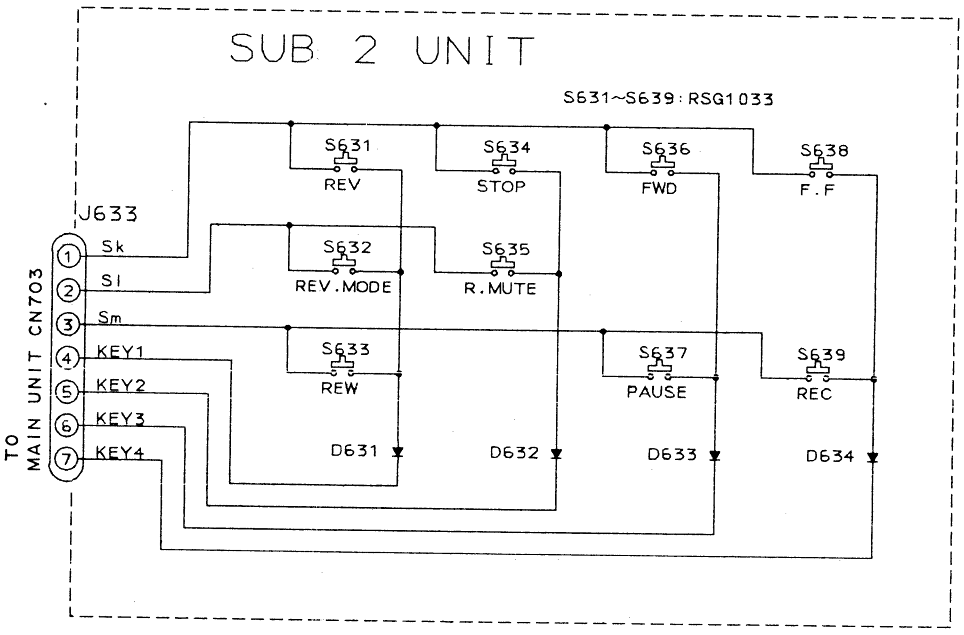
R. O/C UNIT
S920 : TIMEI
S921 : O/C
S922 : CASS

UPPER UNIT
S931 : H1
S932 : H2
S933 : H3


BTMK15
CN601
TO MAIN UNIT CN701
① -28V
② VAC
③ VAC
④ KEY
⑤ KEY
⑥ KEY
⑦ KEY
⑧ Sa
⑨ Sb
⑩ Sc
⑪ Sd
⑫ Se
⑬ Sf
⑭ Sg
⑮ Sh
BTMK14
CN602
TO MAIN UNIT CN702
①
② Si
③ Sj
④ Sk
⑤ Sl
⑥ Sm
⑦ G7
⑧ G6
⑨ G5
⑩ G4
⑪ G3
⑫ G2
⑬ G1
⑭ VC5V


DOOR IND. UNIT
270
R651
R652
R653
R654
R655
R656
REL1007
D651
D652
D653
D654
D655
D656
① ② ③ ④ ⑤ ⑥ ⑦
J650
TO
MAIN UNIT CN700


TO
MAIN UNIT CN901
③ ② ①
J660
GNDC
VC5V
VOUT
Vout
Vcc
GND
G
G
G
IC661
HC-177
REMOTE CONTROL
RECEPTION UNIT


SUB 2 UNIT
S631~S639 : RSG1033
J633
TO MAIN UNIT CN703
① Sk
② Sl
③ Sm
④ KEY1
⑤ KEY2
⑥ KEY3
⑦ KEY4
S631
REV
S634
STOP
S636
FWD
S638
F.F
S632
REV.MODE
S635
R.MUTE
S633
REW
S637
PAUSE
S639
REC
D631
D632
D633
D634

5. SWITCHES (Underline indicates switch position)

POWER SWITCH UNIT
S1001 : POWER ON – OFF

SUB 1 UNIT
S601 : F.F
S602 : DOL. MEMO
S603 : 1
S604 : REW
S605 : CD. SYNC
S606 : RELAY
S607 : OFF/B/C
S608 : 2
S609 : REV
S610 : R. MUTE
S611 : EDIT
S612 : 5
S613 : C. RESET
S614 : 3
S615 : STOP
S616 : PAUSE
S617 : NOR. COPY
S618 : 6
S619 : C. MODE
S620 : 4
S621 : FWD
S622 : REC
S623 : HI-SPEED

SUB 2 UNIT
S631 : REV
S632 : REV. MODE
S633 : REW
S634 : STOP
S635 : R. MUTE
S636 : FWD
S637 : PAUSE
S638 : F.F
S639 : REC

R. O/C UNIT
S920 : TIMER SW
S921 : O/C SW
S922 : CASSETTE RETURN SW

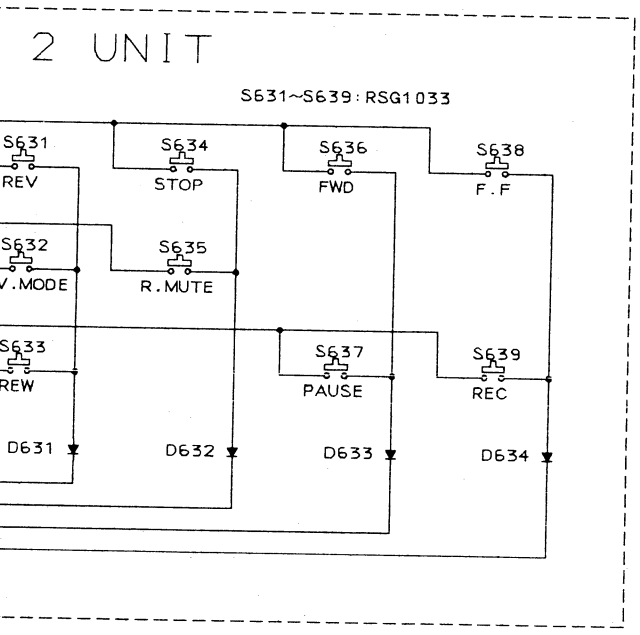
UPPER UNIT
S931 : H1
S932 : H2
S933 : H3
S934 : H4
S935 : H5
S936 : H6

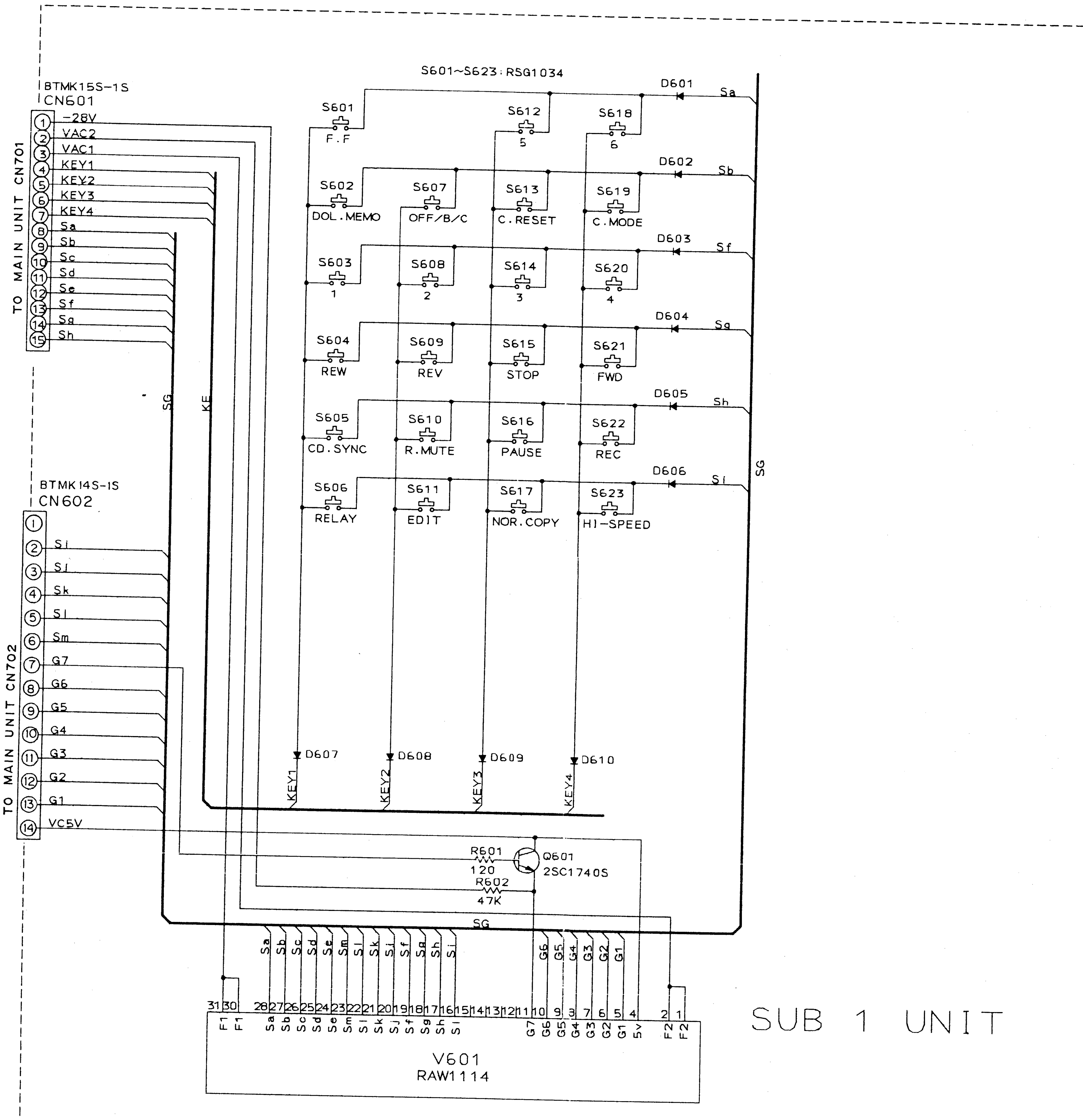
TRAY SW UNIT
S941 : SW1
S942 : SW2
S943 : SW3

CASSETTE HOLDER UNIT
S951 : SW5

LOADING SW UNIT
S961 : SW4

OTHER
LINE VOLTAGE SELECTOR
110V/120 – 127V/220V/240V


2 UNIT
S631~S639 : RSG1033
S631 REV
S634 STOP
S636 FWD
S638 F.F
S632 V.MODE
S635 R.MUTE
S633 REW
S637 PAUSE
S639 REC
D631
D632
D633
D634


BTMK15S-1S
CN601
TO MAIN UNIT CN701
-28V
VAC2
VAC1
KEY1
KEY2
KEY3
KEY4
Sa
Sb
Sc
Sd
Se
Sf
Sg
Sh
SG
KE
BTMK14S-1S
CN602
TO MAIN UNIT CN702
Si
Sj
Sk
Sl
Sm
G7
G6
G5
G4
G3
G2
G1
VC5V
S601~S623 : RSG1034
S601 F.F
S612 5
S618 6
S602 DOL.MEMO
S607 OFF/B/C
S613 C.RESET
S619 C.MODE
S603 1
S608 2
S614 3
S620 4
S604 REW
S609 REV
S615 STOP
S621 FWD
S605 CD.SYNC
S610 R.MUTE
S616 PAUSE
S622 REC
S606 RELAY
S611 EDIT
S617 NOR.COPY
S623 HI-SPEED
D601
D602
D603
D604
D605
D606
D607
D608
D609
D610
R601 120
R602 47K
Q601 2SC1740S
V601
RAW1114
SUB 1 UNIT

NOTE : If the parts are not identified in the diagram, the followings are used.

→ 1SS254

S934 : H4
S935 : H5
S936 : H6

TRAY SW UNIT
S941 : SW1
S942 : SW2
S943 : SW3

CASSETTE HOLDER UNIT
S951 : SW5

LOADING SW UNIT
S961 : SW4

OTHER
LINE VOLTAGE SELECTOR
110V/120 – 127V/220V/240V

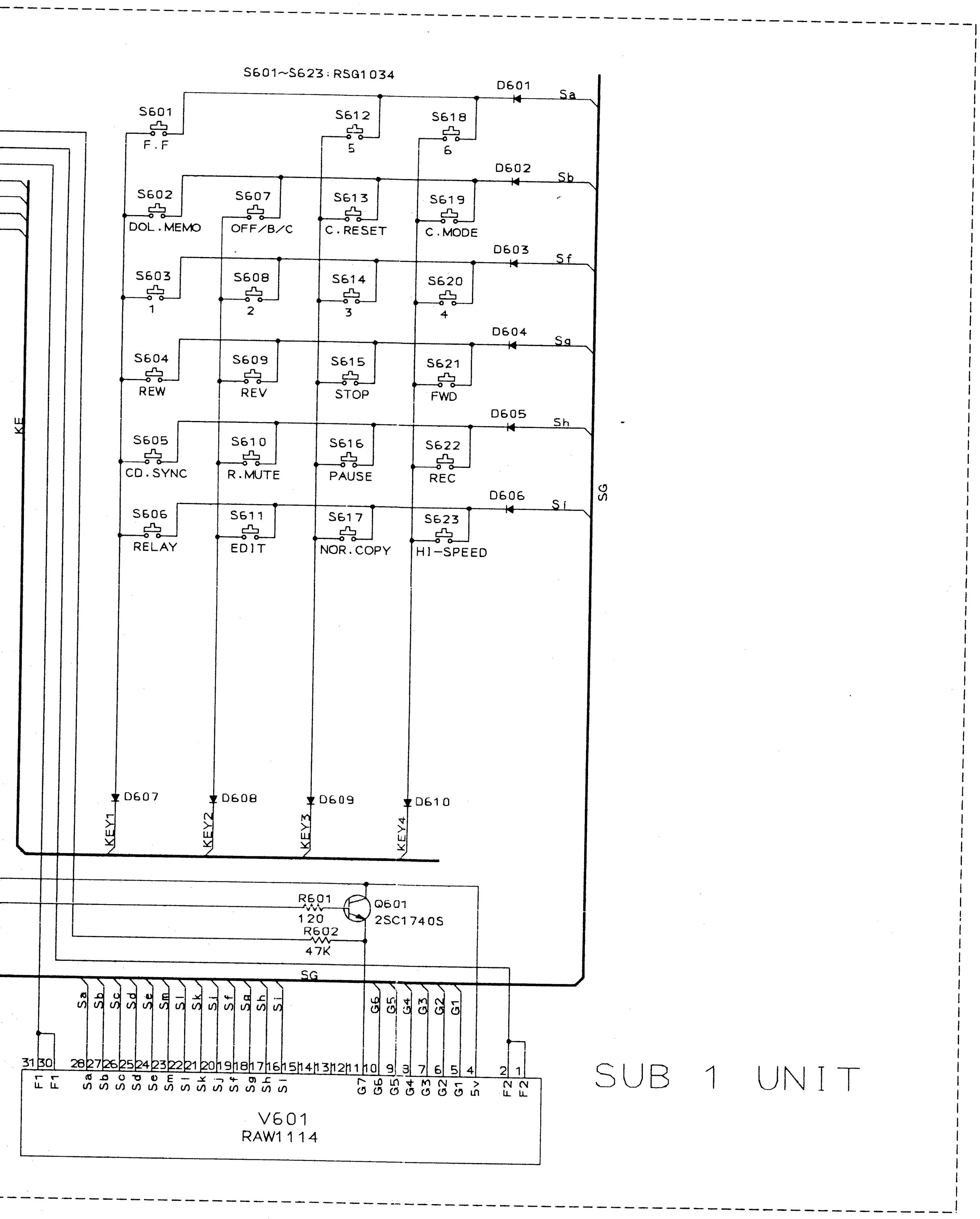
URN SW

B

C

D

E


S601~S623:RSG1034
D601
Sa
S601
F.F
S612
5
S618
6
D602
Sb
S602
DOL.MEMO
S607
OFF/B/C
S613
C.RESET
S619
C.MODE
D603
Sf
S603
1
S608
2
S614
3
S620
4
D604
Sg
S604
REW
S609
REV
S615
STOP
S621
FWD
D605
Sh
S605
CD.SYNC
S610
R.MUTE
S616
PAUSE
S622
REC
D606
Si
S606
RELAY
S611
EDIT
S617
NOR.COPY
S623
HI-SPEED
SG
D607
D608
D609
D610
KEY1
KEY2
KEY3
KEY4
KE
R601
120
R602
47K
Q601
2SC1740S
SG
Sa Sb Sc Sd Se Sm Sl Sk Sj Sf Sg Sh Si
G6 G5 G4 G3 G2 G1
31 30 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 3 7 6 5 4 2 1
F1 F1 Sa Sb Sc Sd Se Sm Sl Sk Sj Sf Sg Sh Si G7 G6 G5 G4 G3 G2 G1 Sv F2 F2
V601
RAW1114
SUB 1 UNIT

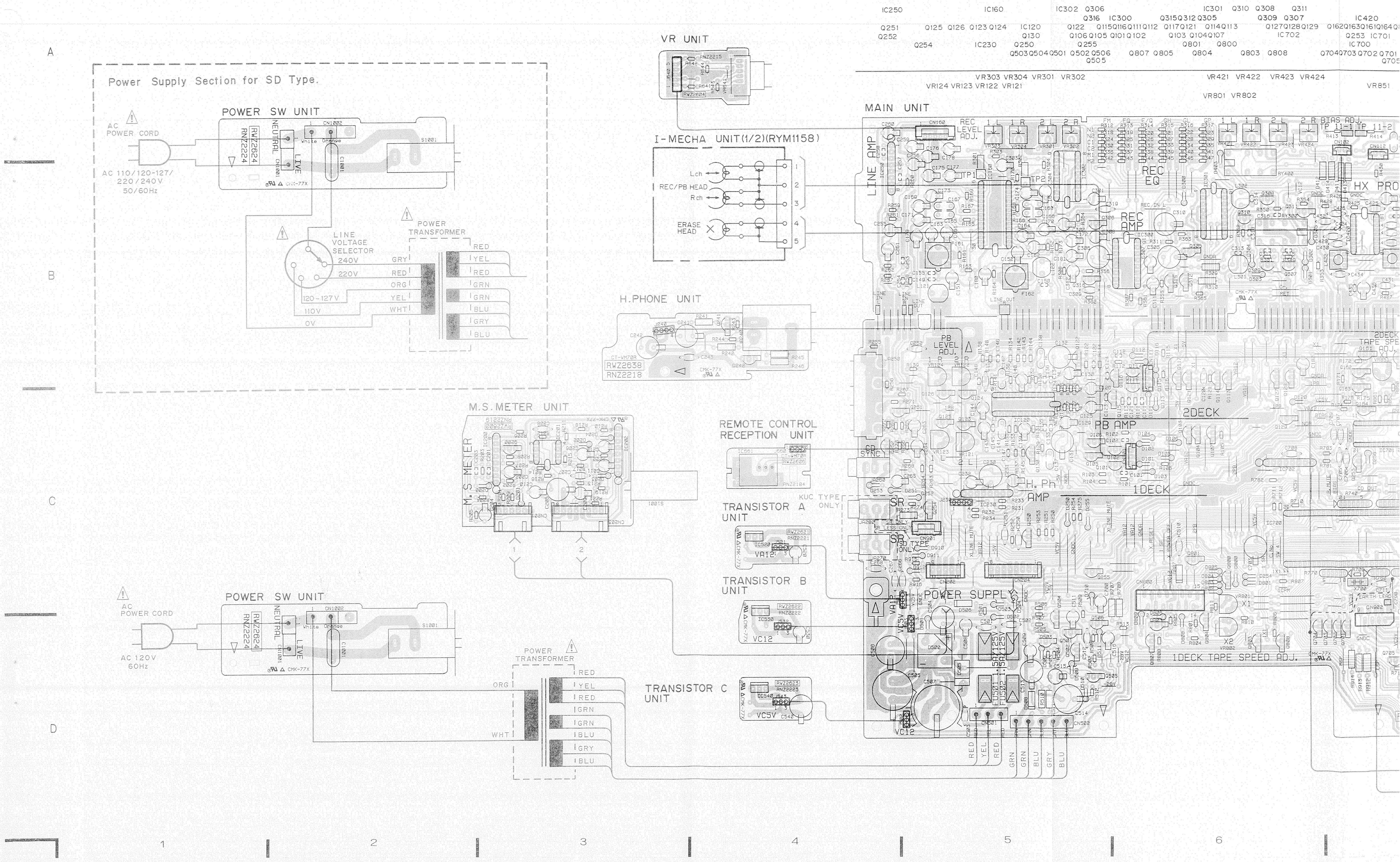
NOTE: If the parts are not identified in the diagram, the followings are used.

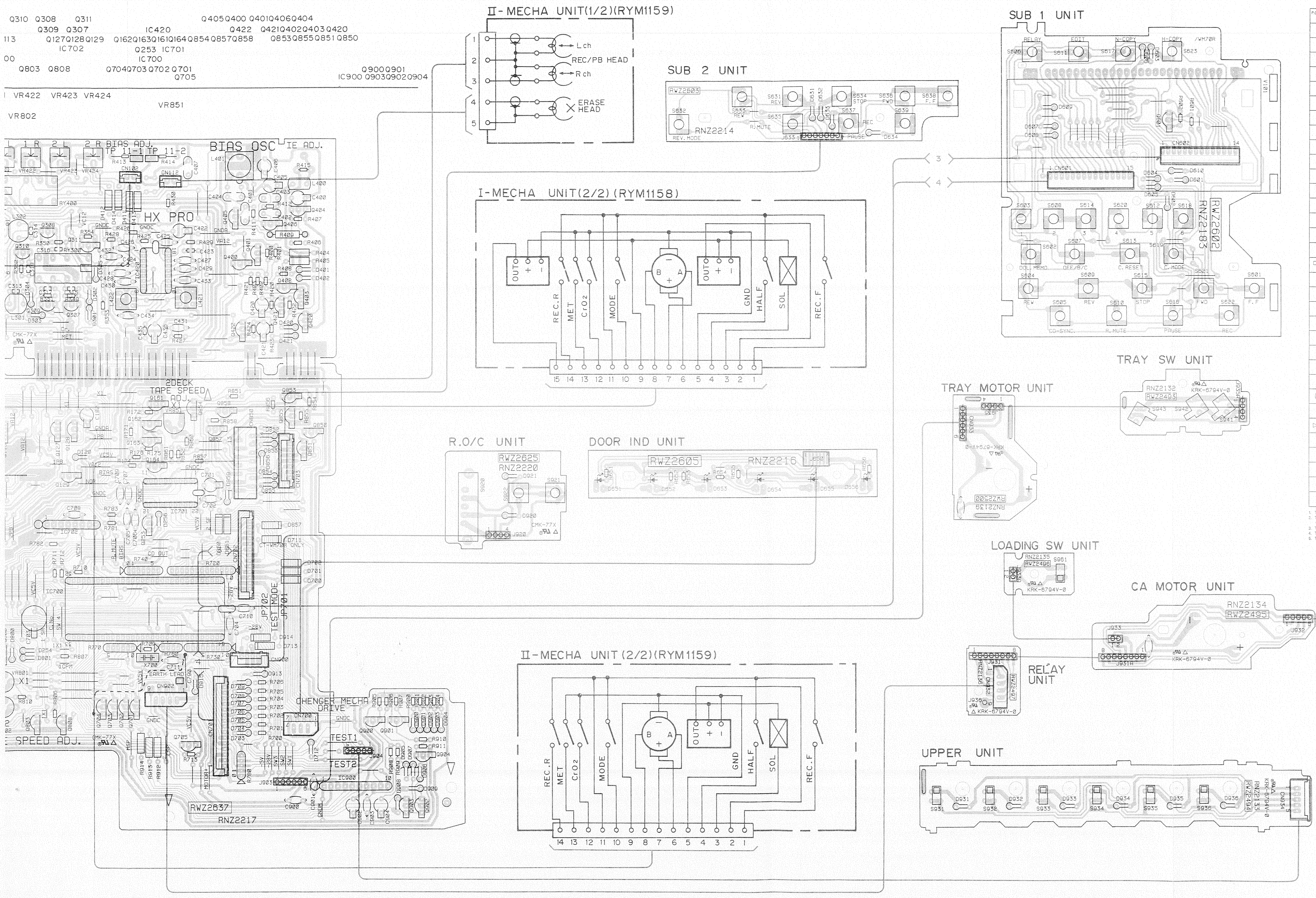
1SS254

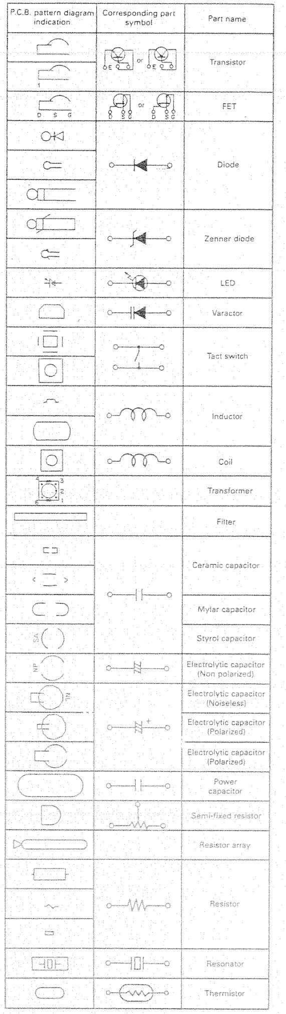
F

PCB CONNECTIONS DIAGRAM FOR CT-WM70R

- View from component side

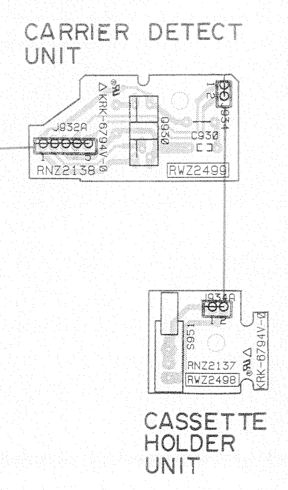

Power Supply Section for SD Type.
POWER SW UNIT
AC POWER CORD
AC 110/120-127/220/240V 50/60Hz
RWZ2624
RNZ2224
NEUTRAL
LIVE
CN1002
CN1001
White
Orange
S1001
C1001
LINE VOLTAGE SELECTOR
240V
220V
120-127V
110V
0V
POWER TRANSFORMER
GRY
RED
ORG
YEL
WHT
RED
YEL
RED
GRN
GRN
BLU
GRY
BLU
VR UNIT
RNZ2215
RWZ2604
I-MECHA UNIT(1/2)(RYM1158)
Lch
REC/PB HEAD
Rch
ERASE HEAD
1
2
3
4
5
H.PHONE UNIT
CT-WM70R
RWZ2638
RNZ2218
M.S.METER UNIT
M.S. METER
REMOTE CONTROL RECEPTION UNIT
RWZ2626
RNZ2184
KUC TYPE ONLY
TRANSISTOR A UNIT
RWZ2621
RNZ2221
VR12
TRANSISTOR B UNIT
RWZ2622
RNZ2222
VC12
TRANSISTOR C UNIT
RWZ2623
RNZ2223
VC5V
POWER SW UNIT
AC POWER CORD
AC 120V 60Hz
POWER TRANSFORMER
ORG
WHT
RED
YEL
RED
GRN
GRN
BLU
GRY
BLU
MAIN UNIT
LINE AMP
REC LEVEL ADJ.
REC EQ
REC AMP
HX PRO
PB LEVEL ADJ.
PB AMP
2DECK
1DECK
H. Ph AMP
POWER SUPPLY
1DECK TAPE SPEED ADJ.
2DECK TAPE SPEED ADJ.
CN501
CN502
RED
YEL
RED
GRN
GRN
BLU
GRY
BLU
IC250
Q251
Q252
Q254
IC160
Q125 Q126 Q123 Q124
IC120
Q130
IC230
Q250
Q503 Q504 Q501 Q502 Q506
Q505
IC302 Q306
Q316 IC300
Q122 Q115 Q116 Q111 Q112
Q106 Q105 Q101 Q102
Q255
Q315 Q312 Q305
Q117 Q121 Q114 Q113
Q103 Q104 Q107
Q801 Q800
Q807 Q805 Q804
IC301 Q310 Q308 Q311
Q309 Q307
Q127 Q128 Q129
IC702
Q803 Q808
IC420
Q162 Q163 Q161 Q164
Q253 IC701
IC700
Q704 Q703 Q702 Q701
Q705
VR303 VR304 VR301 VR302
VR124 VR123 VR122 VR121
VR421 VR422 VR423 VR424
VR801 VR802
VR851
1 2 3 4 5 6
A B C D

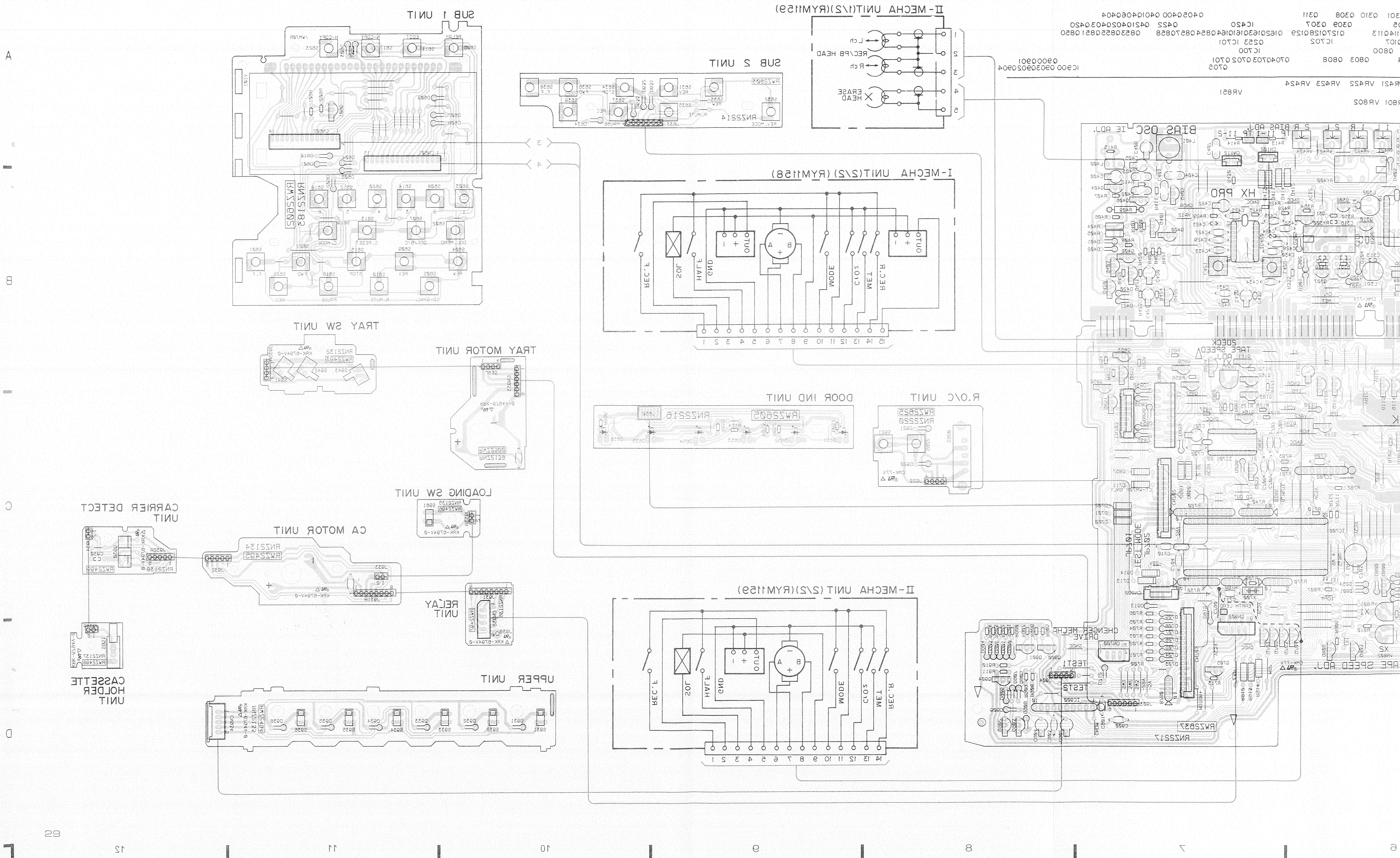

Q310 Q308 Q311
Q309 Q307
113 Q127Q128Q129 Q162Q163Q161Q164Q854Q857Q858
IC702 IC420 IC700 IC701 Q253
Q405Q400 Q401Q406Q404
Q422 Q421Q402Q403Q420
Q853Q855Q851Q850
Q803 Q808 Q704Q703Q702Q701 Q705
Q900Q901
IC900 Q903Q902Q904
VR422 VR423 VR424
VR851
VR802
II-MECHA UNIT(1/2)(RYM1159)
L ch
REC/PB HEAD
R ch
ERASE HEAD
SUB 2 UNIT
RWZ2603
RNZ2214
REV. MODE
R. MUTE
STOP
FWD
PAUSE
REC
SUB 1 UNIT
RELAY
EDIT
N-COPY
H-COPY
/WM70R
CN502
CN501
RWZ2602
RNZ2183
DOLBY
DOL. MEMO
OFF/B/C
C. RESET
C. MODE
REV
F.F
CD-SYNC
R. MUTE
BIAS ADJ.
BIAS OSC
IE ADJ.
HX PRO
I-MECHA UNIT(2/2)(RYM1158)
OUT
REC.R
MET
CrO2
MODE
GND
HALF
SOL
REC.F
15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
2DECK TAPE SPEED ADJ.
R.O/C UNIT
RWZ2625
RNZ2220
DOOR IND UNIT
RWZ2605
RNZ2216
TRAY MOTOR UNIT
RWZ2500
RNZ2159
KRK-6794V-0
TRAY SW UNIT
RNZ2132
RWZ2495
LOADING SW UNIT
RNZ2135
RWZ2496
CA MOTOR UNIT
RNZ2134
RWZ2495
RELAY UNIT
RNZ2136
RWZ2497
TEST MODE
JP701
JP702
CHENGER MECHA DRIVE
TEST1
TEST2
EARTH LEAD
CD OUT
SPEED ADJ.
RWZ2637
RNZ2217
II-MECHA UNIT (2/2)(RYM1159)
14 13 12 11 10 9 8 7 6 5 4 3 2 1
UPPER UNIT
RNZ2133
RWZ2494
S931 S932 S933 S934 S935 S936
D931 D932 D933 D934 D935 D936
3
4



P.C.B. pattern diagram indication	Corresponding part symbol	Part name
	or	Transistor
D S G	D S G or D S G	FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
SA		Styrol capacitor
NP		Electrolytic capacitor (Non polarized)
NL		Electrolytic capacitor (Noiseless)
	+	Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

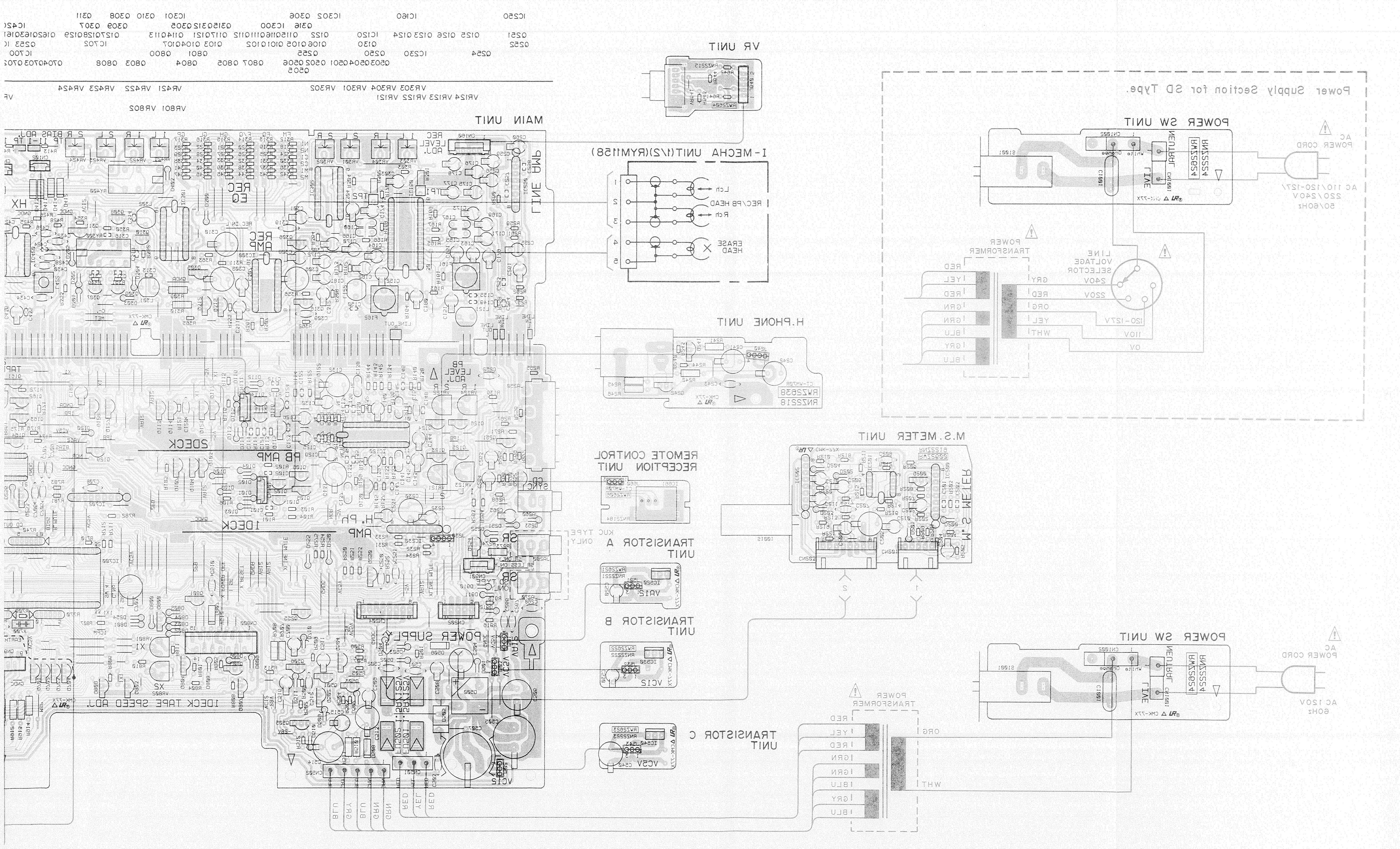
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.


CARRIER DETECT UNIT
RNZ2138
RWZ2499
CASSETTE HOLDER UNIT
RNZ2137
RWZ2498
KRK-6794V-0

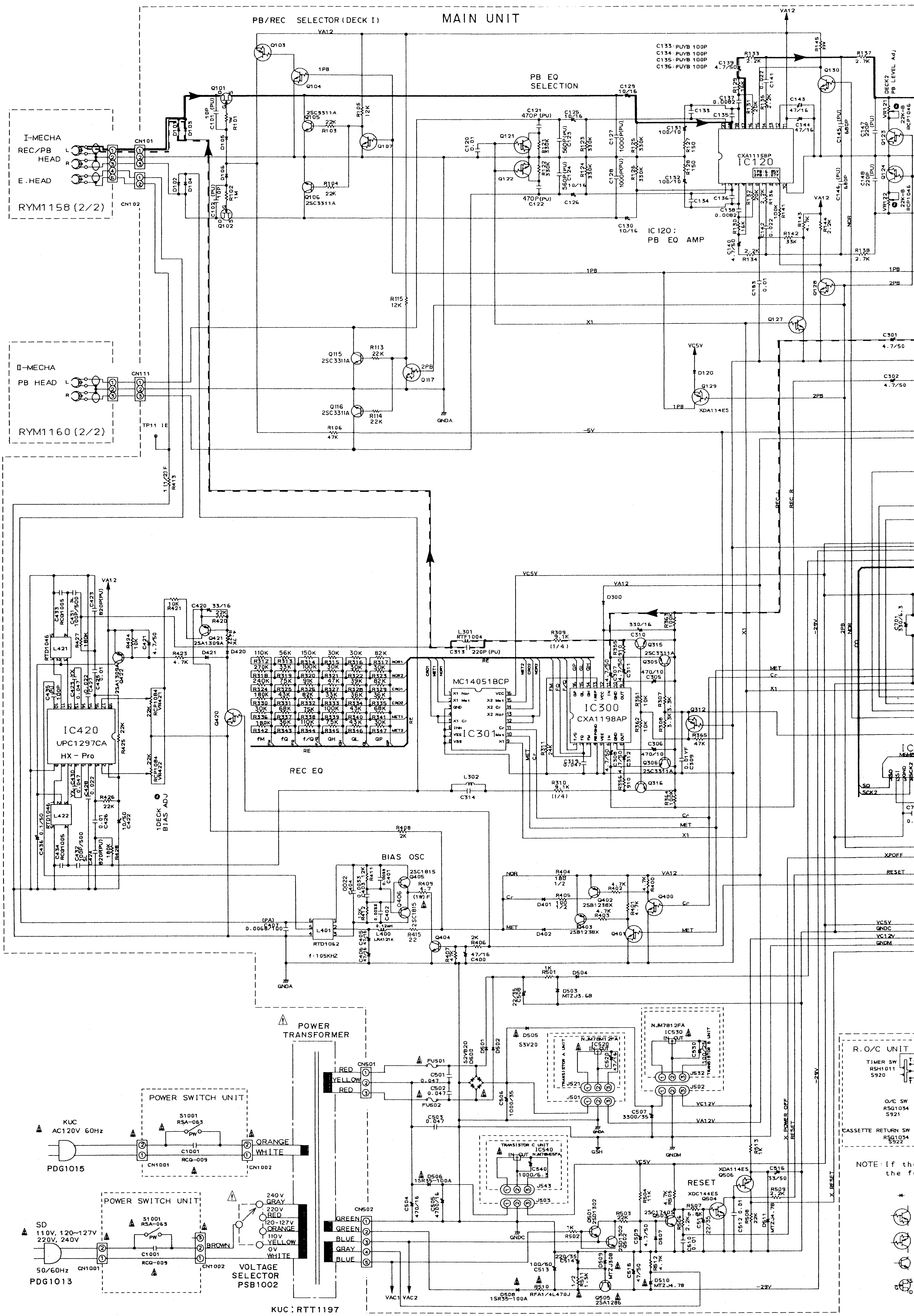

A
B
C
D
12
11
10
9
8
7
6
SUB 1 UNIT
RNZ2183
RWZ2602
SUB 2 UNIT
RNZ2214
RWZ2603
II-MECHA UNIT(1/2)(RYM1159)
L ch
REC/PB HEAD
R ch
ERASE HEAD
I-MECHA UNIT(2/2)(RYM1158)
REC.F
SOL
HALF
GND
OUTO
MODE
CrO2
MET
REC.R
TRAY SW UNIT
TRAY MOTOR UNIT
DOOR IND UNIT
RNZ2216
RWZ2605
R.O/C UNIT
RWZ2625
RNZ2220
LOADING SW UNIT
CARRIER DETECT UNIT
CA MOTOR UNIT
RNZ2134
RWZ2495
RELAY UNIT
CASSETTE HOLDER UNIT
UPPER UNIT
II-MECHA UNIT(2/2)(RYM1159)
BIAS OSC
HX PRO
TAPE SPEED ADJ.
CHENGER MECH DRIVE
TEST1
TEST2
RWZ2637
RNZ2217

PCB CONNECTIONS DIAGRAM FOR CT-WM70R

- View from soldering side

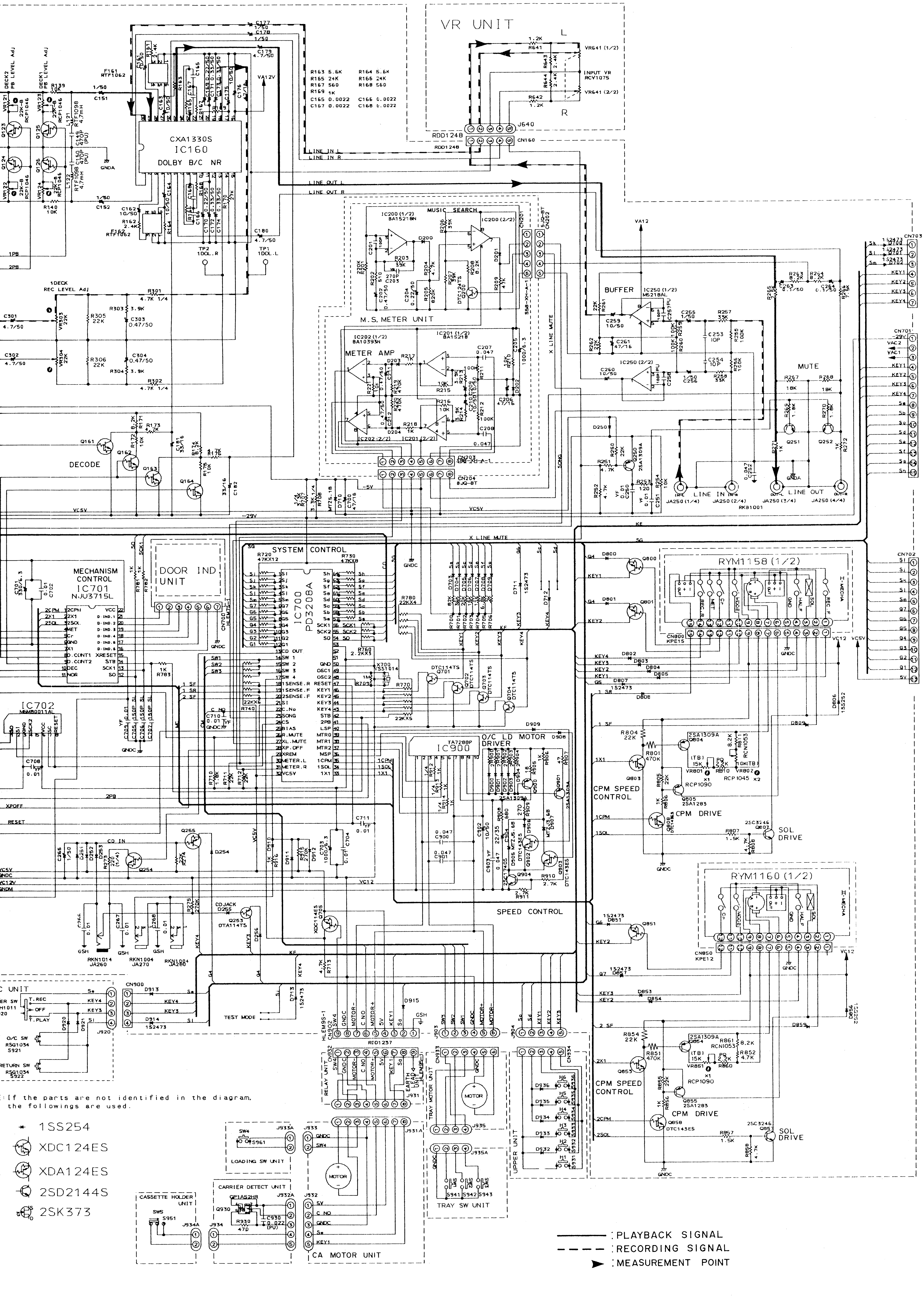

VR UNIT
MAIN UNIT
I-MECHA UNIT(1/2)(RYM1158)
Lch
REC/PB HEAD
Rch
ERASE HEAD
H.PHONE UNIT
REMOTE CONTROL RECEPTION UNIT
TRANSISTOR A UNIT
KUC TYPE ONLY
TRANSISTOR B UNIT
TRANSISTOR C UNIT
M.S.METER UNIT
POWER SW UNIT
AC POWER CORD
AC 110/120-127/220/240V 50/60Hz
AC 120V 60Hz
POWER TRANSFORMER
LINE VOLTAGE SELECTOR
Power Supply Section for SD Type.
LIVE
NEUTRAL
REC EQ
REC AMP
LINE AMP
PB AMP
2DECK
1DECK
H.Ph AMP
POWER SUPPLY
1DECK TAPE SPEED ADJ.
REC LEVEL ADJ.
PB LEVEL ADJ.
RED
YEL
GRN
BLU
GRY
ORG
WHT
240V
220V
120-127V
110V
0V

SCHEMATIC DIAGRAMS FOR CT-WM60R



MAIN UNIT
PB/REC SELECTOR (DECK I)
PB EQ SELECTION
IC120 CXA1158P
IC 120 : PB EQ AMP
C133: PUYB 100P
C134: PUYB 100P
C135: PUYB 100P
C136: PUYB 100P
DECK2 PB LEVEL ADJ
I-MECHA REC/PB HEAD
E. HEAD
RYM1158 (2/2)
CN101
CN102
II-MECHA PB HEAD
RYM1160 (2/2)
CN111
TP11 IE
IC420 UPC1297CA HX-Pro
1DECK BIAS ADJ
REC EQ
MC14051BCP
IC301
IC300 CXA1198AP
BIAS OSC
f:105KHZ
GNDA
POWER TRANSFORMER
POWER SWITCH UNIT
S1001 RSA-063
C1001 RCG-009
KUC AC120V 60Hz
PDG1015
SD 110V, 120~127V 220V, 240V
50/60Hz
PDG1013
CN1001
CN1002
ORANGE
WHITE
BROWN
240V GRAY
220V RED
120-127V ORANGE
110V YELLOW
0V WHITE
VOLTAGE SELECTOR PSB1002
KUC : RTT1197
SD : RTT1198
CN501
RED
YELLOW
RED
CN502
GREEN
GREEN
BLUE
GRAY
BLUE
FU501
FU502
S2VB20 D600
IC520 NJM78M12FA
IC530 NJM7812FA
IC540 NJM78M05FA
TRANSISTOR A UNIT
TRANSISTOR B UNIT
TRANSISTOR C UNIT
RESET
XDA114ES Q506
XDC144ES Q504
VAC1 VAC2
R.O/C UNIT
TIMER SW RSH1011 S920
O/C SW RSG1034 S921
CASSETTE RETURN SW RSG1034 S922
NOTE: If the
the f

	KUC	SD
FU501 FU502	REK1001 1.5A/125V	REK-102 1.6A/250V


VR UNIT
L
R
VR641 (1/2)
INPUT VR RCV1075
VR641 (2/2)
J640
RDD124B
CN160
CXA1330S
IC160
DOLBY B/C NR
VA12V
R163 5.6K R164 5.6K
R165 24K R166 24K
R167 560 R168 560
R169 1K
C165 0.0022 C166 0.0022
C167 0.0022 C168 0.0022
LINE IN L
LINE IN R
LINE OUT L
LINE OUT R
DECK2 PB LEVEL Adj
DECK1 PB LEVEL Adj
1DECK REC LEVEL Adj
TP2 1DOL.R
TP1 1DOL.L
MUSIC SEARCH
IC200 (1/2) BA15218N
IC200 (2/2)
M.S. METER UNIT
METER AMP
IC202 (1/2) BA10393N
IC201 (1/2) BA15218
IC202 (2/2)
IC201 (2/2)
BUFFER
IC250 (1/2) M5218AL
IC250 (2/2)
MUTE
LINE IN
LINE OUT
JA250 (1/4)
JA250 (2/4)
JA250 (3/4)
JA250 (4/4)
RKB1001
SUB 2 UNIT
SUB 1 UNIT
CN703
CN701
CN702
X LINE MUTE
DECODE
MECHANISM CONTROL
IC701
NJU3715L
DOOR IND UNIT
SYSTEM CONTROL
IC700
PD3208A
IC702
M6M80011AL
RYM1158 (1/2)
I MECHA
CN800 KPE15
O/C LD MOTOR DRIVER
IC900
TA7288P
CPM SPEED CONTROL
CPM DRIVE
SOL DRIVE
SPEED CONTROL
RYM1160 (1/2)
II MECHA
CN850 KPE12
CD IN
CD JACK
RKN1014 JA260
RKN1004 JA270
RKN1004 JA280
C UNIT
T.REC
OFF
T.PLAY
O/C SW RSG1034 S921
RETURN SW RSG1034 S922
CN900
J920
TEST MODE
RDD1237
RELAY UNIT
TRAY MOTOR UNIT
MOTOR
UPPER UNIT
LOADING SW UNIT
CASSETTE HOLDER UNIT
CARRIER DETECT UNIT
GP1A52HR
CA MOTOR UNIT
TRAY SW UNIT
S941 S942 S943

Note: If the parts are not identified in the diagram, the followings are used.

- 1SS254
- XDC124ES
- XDA124ES
- 2SD2144S
- 2SK373

———— : PLAYBACK SIGNAL
– – – – : RECORDING SIGNAL
➤ : MEASUREMENT POINT

1. RESISTORS :
Indicated in Ω, 1/4W, 1/6W, 1/8W, ± 5 % tolerance unless otherwise noted k; kΩ, M; MΩ, (F) ; ± 1 %, (G) ; ± 2%, (K) ; ± 10%, (M) ; ± 20 % tolerance.

2. CAPACITORS :
Indicated in capacity (μF) /voltage (V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE CURRENT :
▭ ; DC voltage (V) at no input signal.
← mA ; DC current at no input signal.

4. OTHERS :
→ ; Signal route.
⊘ ; Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES (Underline indicates switch posi

POWER SWITCH UNIT
S1001 : POWER ON – OFF

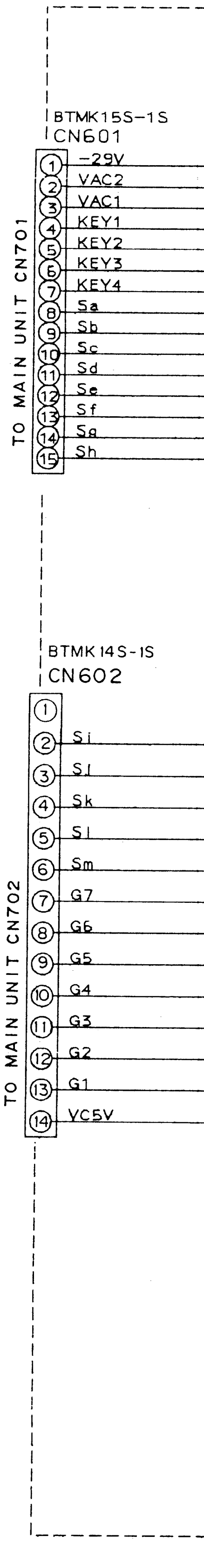
SUB 1 UNIT
S601 : F.F
S602 : DOL. MEMO
S603 : 1
S604 : REW
S605 : CD. SYNC
S606 : RELAY
S607 : OFF/B/C
S608 : 2
S609 : REV
S610 : R. MUTE
S611 : RANDOM
S612 : 5
S613 : C. RESET
S614 : 3
S615 : STOP
S616 : PAUSE
S617 : CASSETTE SCAN
S618 : 6
S619 : C. MODE
S620 : 4

S621 : FWD
S622 : REC
S623 : ALL

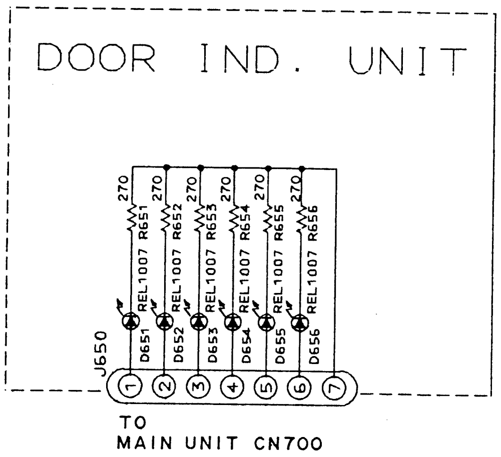
SUB 2 UNIT
S631 : REV
S632 : REV.
S633 : REW
S634 : STOP
S635 : NOR.
S636 : FWD
S638 : F.F
S639 : HI-SP

R. O/C UNIT
S920 : TIME
S921 : O/C
S922 : CASS

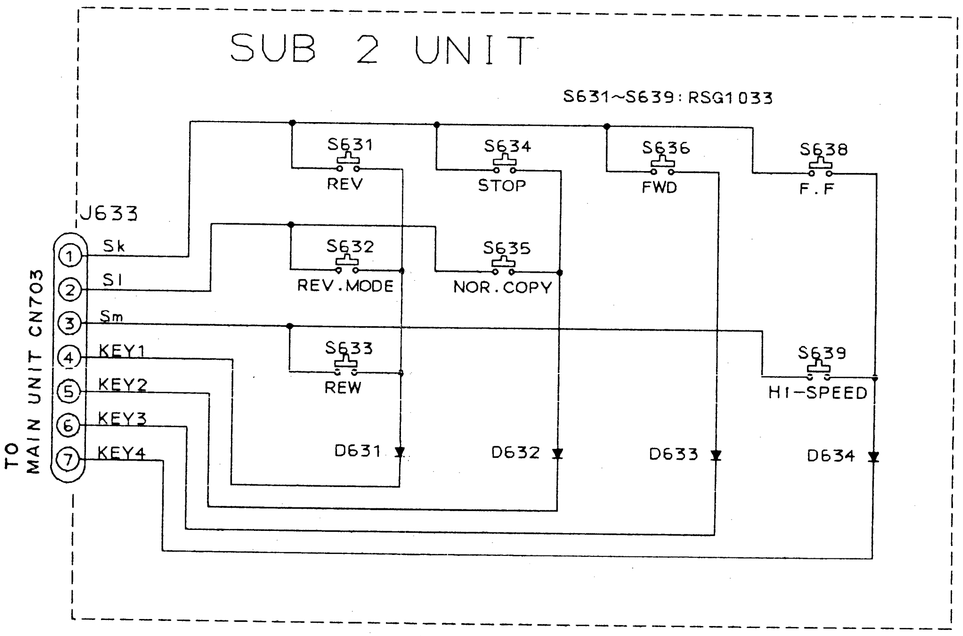
UPPER UNIT
S931 : H1
S932 : H2
S933 : H3
S934 : H4
S935 : H5
S936 : H6



BTMK15S-1S
CN601
-29V
VAC2
VAC1
KEY1
KEY2
KEY3
KEY4
Sa
Sb
Sc
Sd
Se
Sf
Sg
Sh
TO MAIN UNIT CN701
BTMK14S-1S
CN602
Si
Sj
Sk
Sl
Sm
G7
G6
G5
G4
G3
G2
G1
VC5V
TO MAIN UNIT CN702



DOOR IND. UNIT
270
R651
R652
R653
R654
R655
R656
REL1007
D651
D652
D653
D654
D655
D656
J650
TO
MAIN UNIT CN700



SUB 2 UNIT
S631~S639: RSG1033
J633
Sk
Sl
Sm
KEY1
KEY2
KEY3
KEY4
TO MAIN UNIT CN703
S631
REV
S634
STOP
S636
FWD
S638
F.F
S632
REV.MODE
S635
NOR.COPY
S633
REW
S639
HI-SPEED
D631
D632
D633
D634

itch position)

1 : FWD
2 : REC
3 : ALL REW

2 UNIT
: REV
2 : REV. MODE
3 : REW
: STOP
5 : NOR. COPY
5 : FWD
3 : F.F
: HI-SPEED

/C UNIT
: TIMER SW
: O/C SW
: CASSETTE RETURN SW

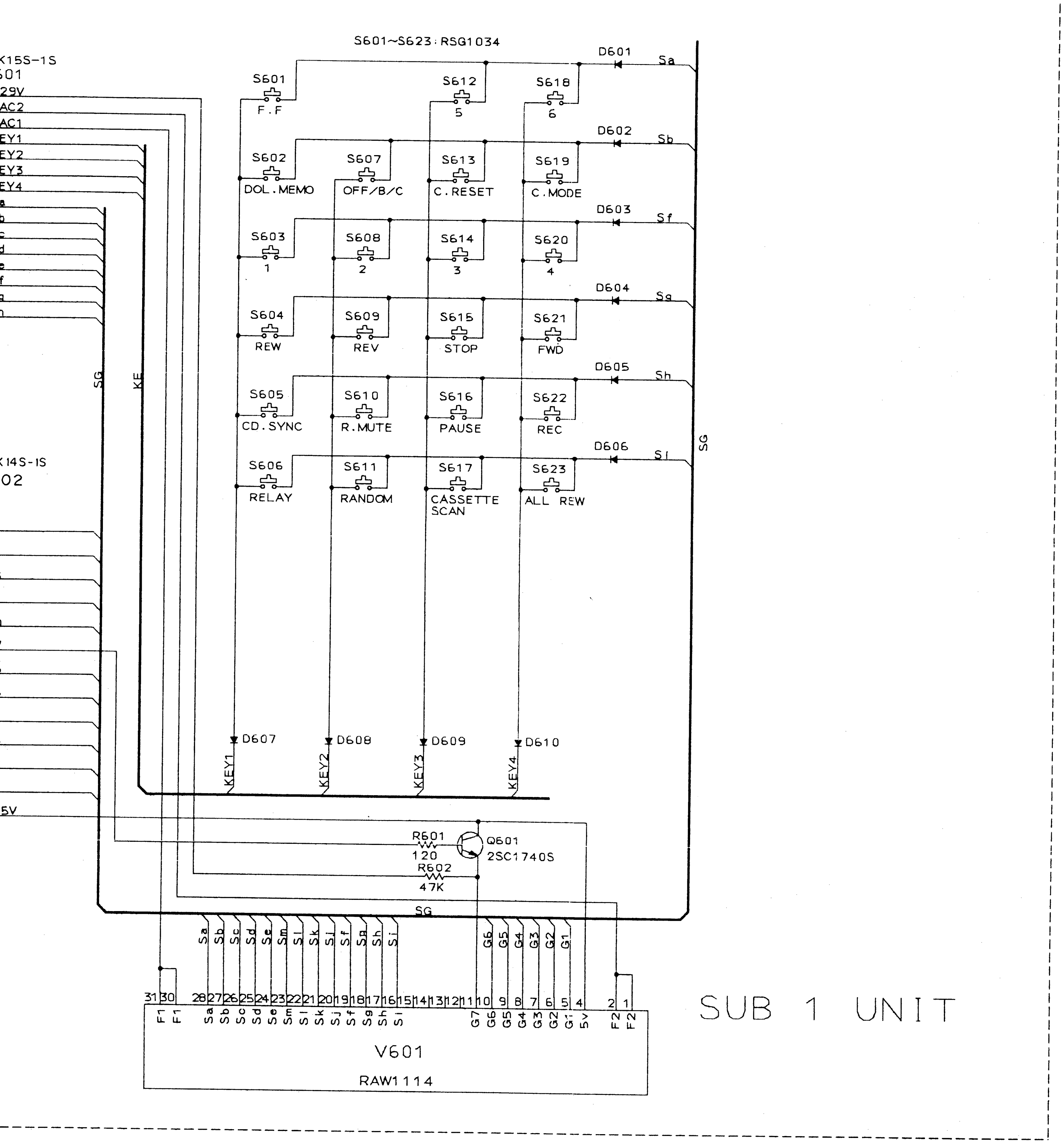
ER UNIT
: H1
: H2
: H3
: H4
: H5
: H6

TRAY SW UNIT
S941 : SW1
S942 : SW2
S943 : SW3

CASSETTE HOLDER UNIT
S951 : SW5

LOADING SW UNIT
S961 : SW4

OTHER
LINE VOLTAGE SELECTOR
110V/120 – 127V/220V/240V

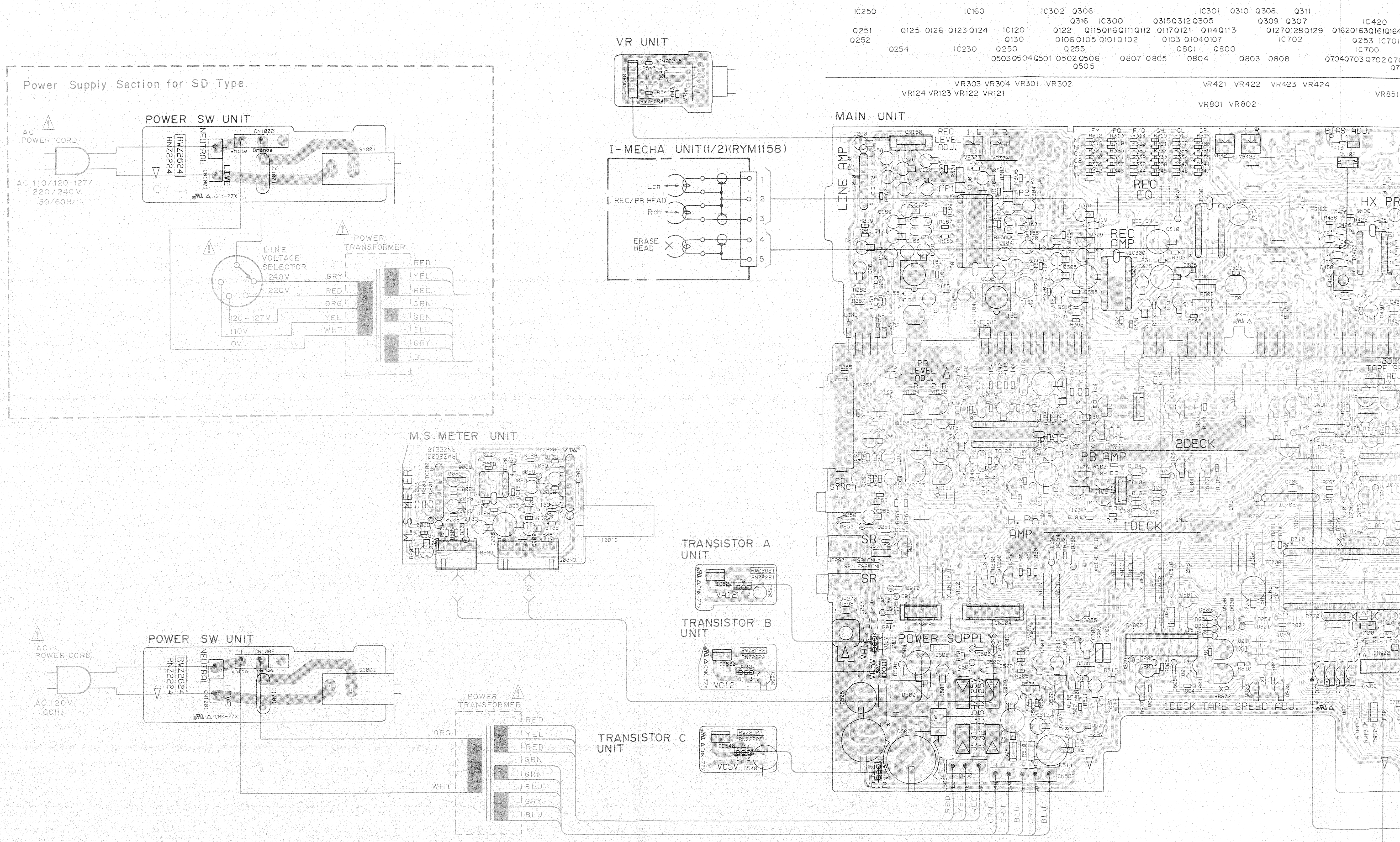

S601~S623: RSG1034
K15S-1S
601
29V
AC2
AC1
EY1
EY2
EY3
EY4
S601 F.F
S612 5
S618 6
S602 DOL.MEMO
S607 OFF/B/C
S613 C.RESET
S619 C.MODE
S603 1
S608 2
S614 3
S620 4
S604 REW
S609 REV
S615 STOP
S621 FWD
S605 CD.SYNC
S610 R.MUTE
S616 PAUSE
S622 REC
S606 RELAY
S611 RANDOM
S617 CASSETTE SCAN
S623 ALL REW
D601 Sa
D602 Sb
D603 Sf
D604 Sg
D605 Sh
D606 Si
SG
KE
K14S-1S
02
D607
D608
D609
D610
KEY1
KEY2
KEY3
KEY4
5V
R601 120
R602 47K
Q601 2SC1740S
SG
Sa Sb Sc Sd Se Sm Sl Sk Sj Sf Sg Sh Si
G6 G5 G4 G3 G2 G1
31 30 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 2 1
F1 F1 Sa Sb Sc Sd Se Sm Sl Sk Sj Sf Sg Sh Si G7 G6 G5 G4 G3 G2 G1 5V F2 F2
V601
RAW1114
SUB 1 UNIT

NOTE: If the parts are not identified in the diagram, the followings are used.

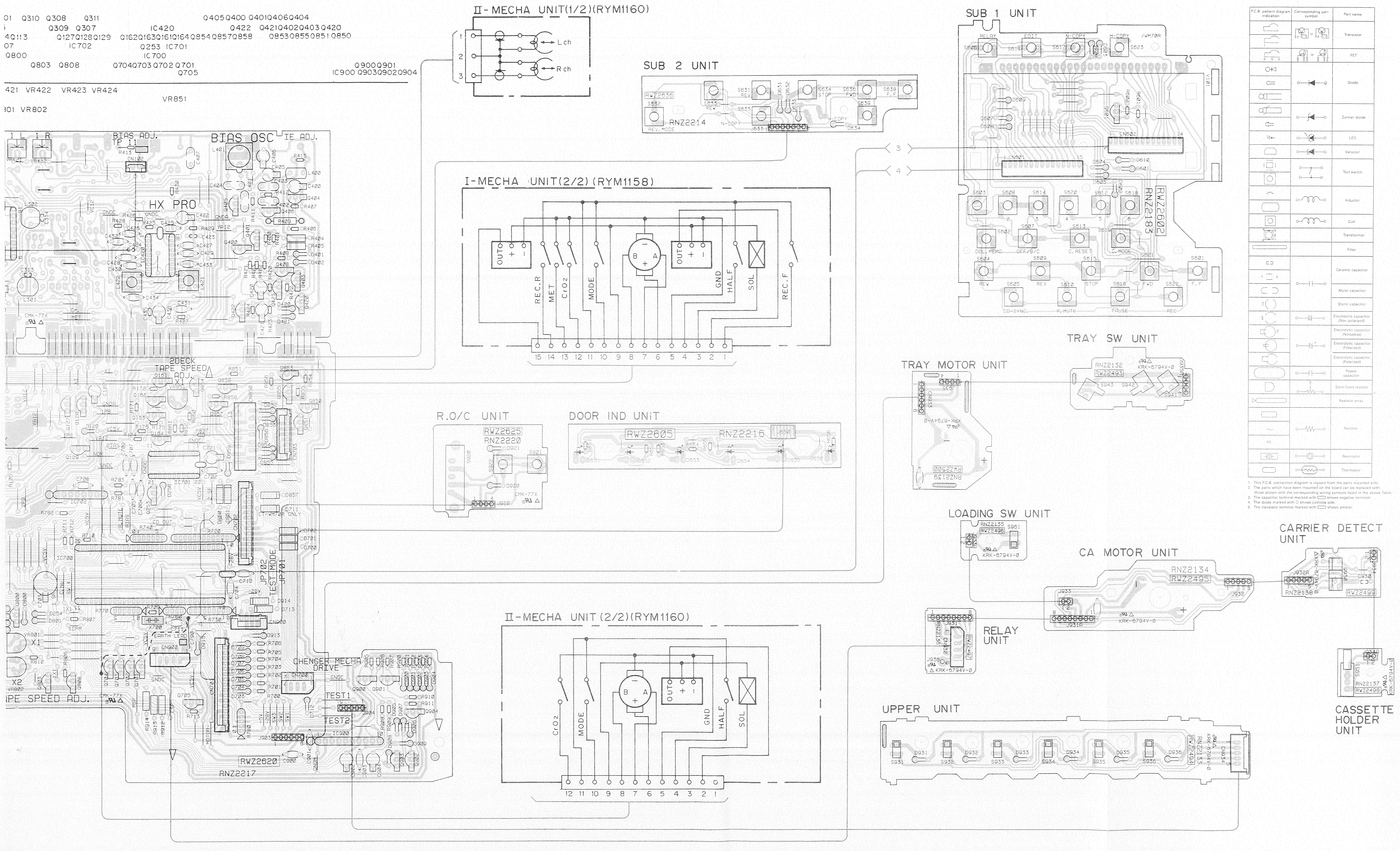
⧏ 1SS254

PCB CONNECTIONS DIAGRAM FOR CT-WM60R

- View from component side

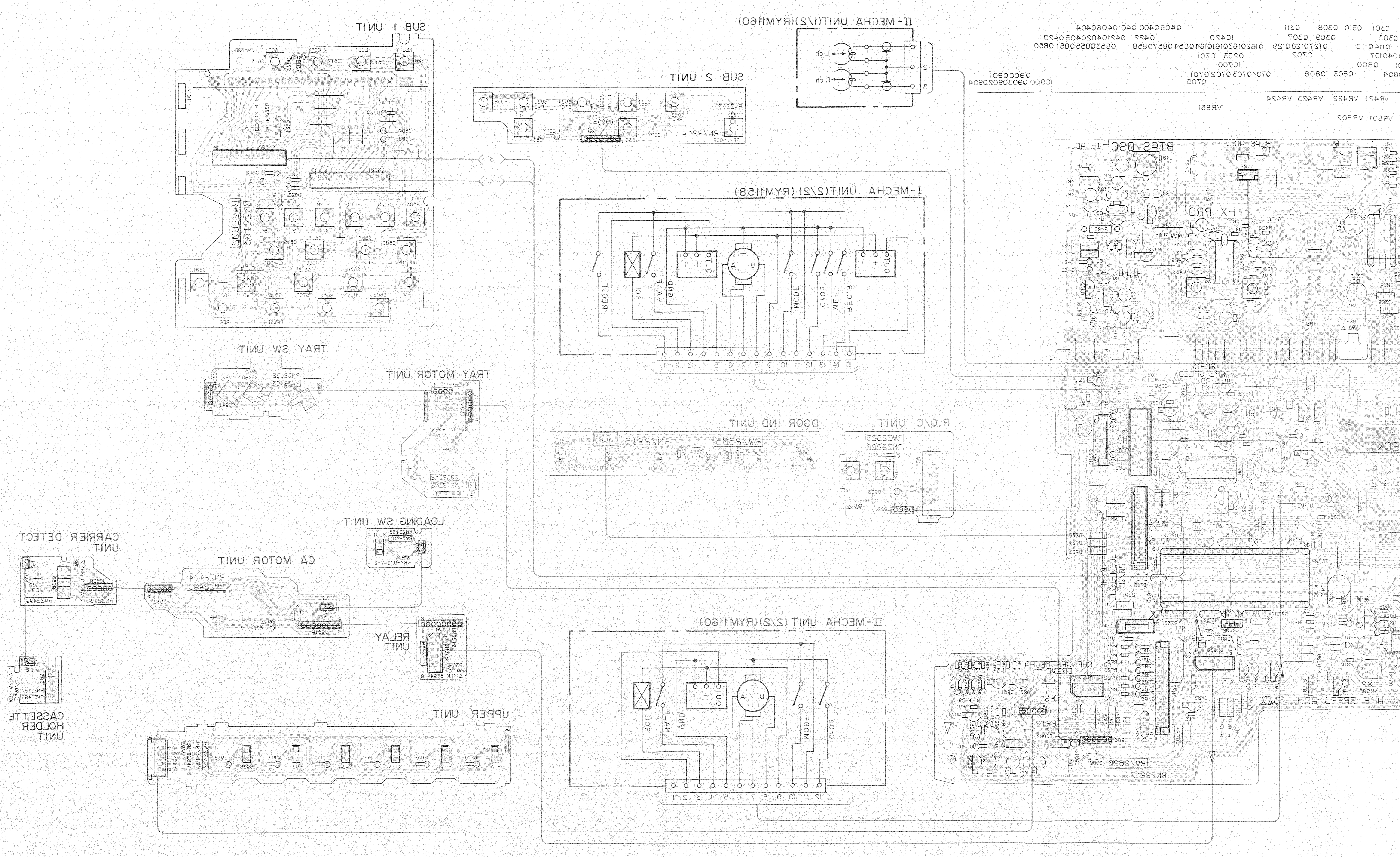


Power Supply Section for SD Type.
POWER SW UNIT
AC POWER CORD
AC 110/120-127/220/240V 50/60Hz
RWZ2624
RNZ2224
NEUTRAL
LIVE
CN1002
CN1001
White
Orange
S1001
C1001
CMK-77X
LINE VOLTAGE SELECTOR
240V
220V
120-127V
110V
0V
POWER TRANSFORMER
GRY
RED
ORG
YEL
WHT
RED
YEL
RED
GRN
GRN
BLU
GRY
BLU
VR UNIT
RNZ2215
RWZ2604
I-MECHA UNIT(1/2)(RYM1158)
Lch
REC/PB HEAD
Rch
ERASE HEAD
1
2
3
4
5
M.S.METER UNIT
M.S METER
RWZ2600
RNZ2219
TRANSISTOR A UNIT
RWZ2621
RNZ2221
IC520
VA12
C520
TRANSISTOR B UNIT
RWZ2622
RNZ2222
IC530
VC12
C530
TRANSISTOR C UNIT
RWZ2623
RNZ2223
IC540
VC5V
C540
AC 120V 60Hz
IC250
Q251
Q252
Q254
Q125 Q126 Q123 Q124
IC160
IC230
IC120
Q130
Q250
Q503 Q504 Q501 Q502 Q506
Q505
IC302 Q306
Q316 IC300
Q122 Q115 Q116 Q111 Q112
Q106 Q105 Q101 Q102
Q255
Q315 Q312 Q305
Q117 Q121 Q114 Q113
Q103 Q104 Q107
Q807 Q805
Q804
IC301 Q310 Q308 Q311
Q309 Q307
Q127 Q128 Q129
IC702
Q801 Q800
Q803 Q808
IC420
Q162 Q163 Q161 Q164
Q253 IC701
IC700
Q704 Q703 Q702
VR303 VR304 VR301 VR302
VR124 VR123 VR122 VR121
VR421 VR422 VR423 VR424
VR801 VR802
VR851
MAIN UNIT
LINE AMP
REC LEVEL ADJ.
1 L
1 R
2 L
2 R
REC EQ
REC AMP
BIAS ADJ.
TP11
HX PR
TP1
TP2
PB LEVEL ADJ.
PB AMP
2DECK
1DECK
H.Ph AMP
CD SYNC
SR
SR ONLY
SR LESS ONLY
POWER SUPPLY
FU501 1.5A/125V
FU502 1.5A/125V
VA12
VC5V
VC12
CN501
CN502
CN160
CN202
CN204
CN800
1DECK TAPE SPEED ADJ.
X1
X2
VR801
VR802
TAPE SP
RED
YEL
RED
GRN
GRN
BLU
GRY
BLU


II-MECHA UNIT(1/2)(RYM1160)
Lch
Rch
SUB 2 UNIT
RNZ2214
SUB 1 UNIT
RWZ2602
RNZ2183
I-MECHA UNIT(2/2)(RYM1158)
REC.R
MET
CrO2
MODE
GND
HALF
SOL
REC.F
OUT
BIAS ADJ.
BIAS OSC
IE ADJ.
HX PRO
2DECK TAPE SPEED ADJ.
TAPE SPEED ADJ.
TEST MODE
JP702
JP701
CHENGER MECHA DRIVE
TEST1
TEST2
RWZ2620
RNZ2217
R.O/C UNIT
RWZ2625
RNZ2220
DOOR IND UNIT
RWZ2605
RNZ2216
TRAY MOTOR UNIT
RWZ2500
RNZ2139
TRAY SW UNIT
RNZ2132
RWZ2493
LOADING SW UNIT
RNZ2135
RWZ2496
CA MOTOR UNIT
RNZ2134
RWZ2495
CARRIER DETECT UNIT
RNZ2138
RWZ2499
RELAY UNIT
RNZ2136
RWZ2497
II-MECHA UNIT (2/2)(RYM1160)
UPPER UNIT
RNZ2133
RWZ2494
CASSETTE HOLDER UNIT
RNZ2137
RWZ2498
KRK-6794V-0
CMK-77X
7
8
9
10
11
12
A
B
C
D

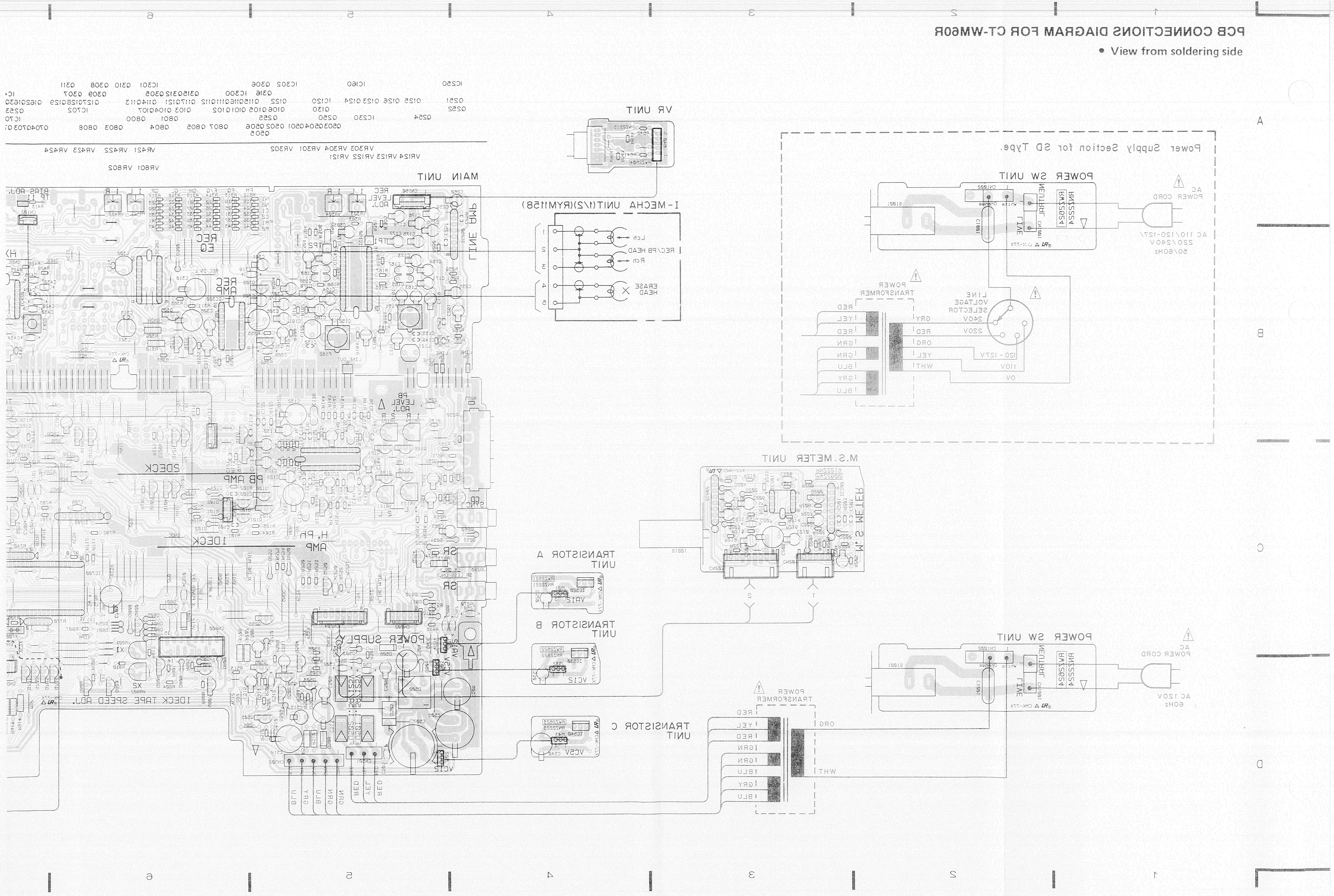
P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator
		Thermistor

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.


SUB 1 UNIT
SUB 2 UNIT
II-MECHA UNIT(1/2)(RYM1160)
L ch
R ch
I-MECHA UNIT(2/2)(RYM1158)
REC.F
SOL
HALF
GND
OUT
MODE
C.OS
MET
R.REC
TRAY SW UNIT
TRAY MOTOR UNIT
DOOR IND UNIT
RNZ2216
RWZ2605
R.O/C UNIT
RWZ2625
RNZ2220
LOADING SW UNIT
CARRIER DETECT UNIT
CA MOTOR UNIT
RNZ2134
RWZ2405
RELAY UNIT
CASSETTE HOLDER UNIT
UPPER UNIT
II-MECHA UNIT(2/2)(RYM1160)
BIAS OSC ADJ.
BIAS ADJ.
HX PRO
2DECK TAPE SPEED ADJ.
TEST MODE
CHANGER MECHA DRIVE
TEST1
TEST2
RWZ2620
RNZ2217
TAPE SPEED ADJ.
RNZ2183
RWZ2605
RNZ2214

PCB CONNECTIONS DIAGRAM FOR CT-WM60R

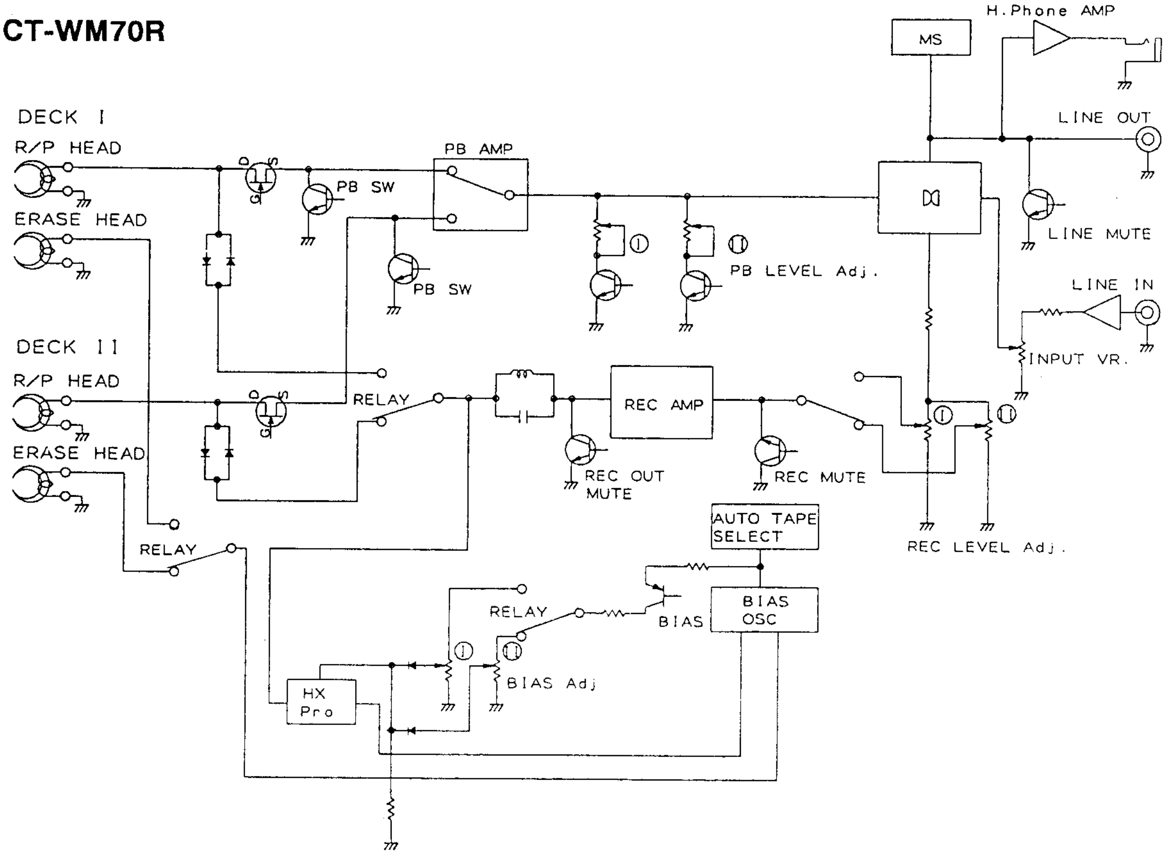
- View from soldering side



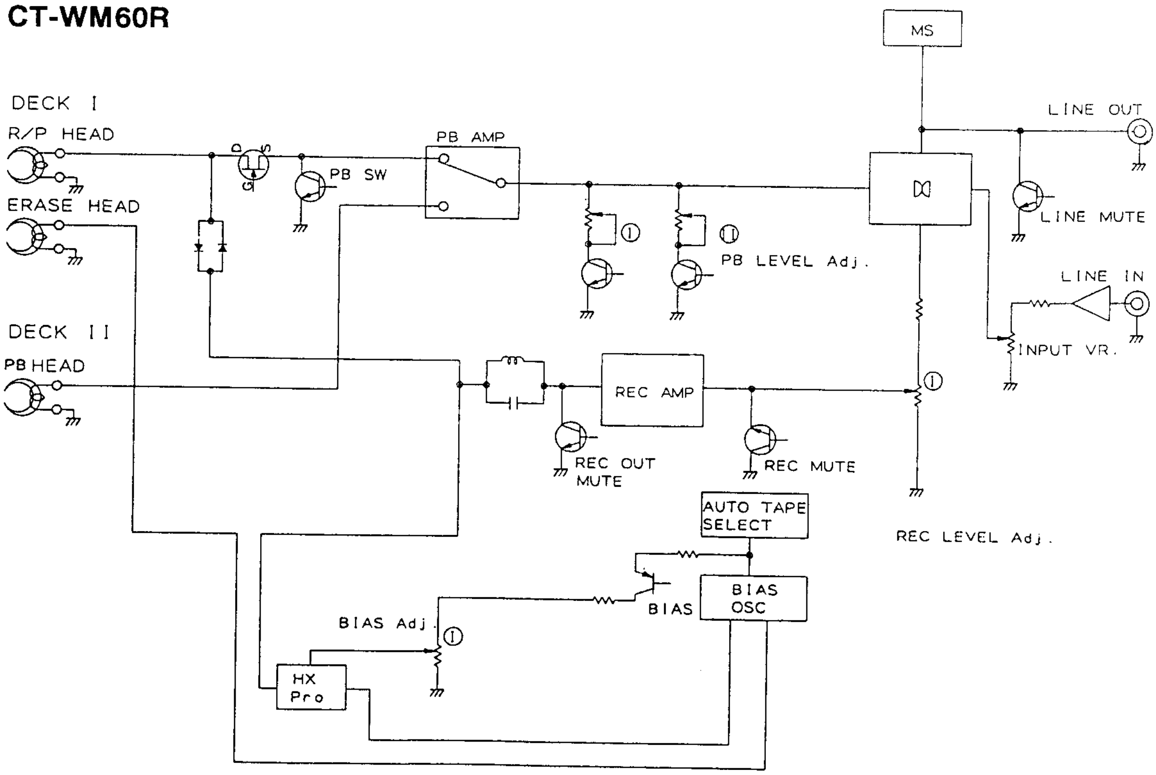
VR UNIT
MAIN UNIT
I-MECHA UNIT(1/2)(RYM1158)
LINE AMP
REC LEVEL ADJ.
REC EQ
REC AMP
PB LEVEL ADJ.
PB AMP
2DECK
1DECK
H.Ph AMP
POWER SUPPLY
1DECK TAPE SPEED ADJ.
BIAS ADJ.
Lch
REC/PB HEAD
Rch
ERASE HEAD
Power Supply Section for SD Type.
POWER SW UNIT
AC POWER CORD
AC 110/120-127/220/240V 50/60Hz
POWER TRANSFORMER
LINE VOLTAGE SELECTOR
240V
220V
120-127V
110V
0V
NEUTRAL
LINE
RED
YEL
GRN
BLU
GRY
ORG
WHT
M.S.METER UNIT
TRANSISTOR A UNIT
TRANSISTOR B UNIT
TRANSISTOR C UNIT
AC 120V 60Hz

5. BLOCK DIAGRAMS

For CT-WM70R


H.Phone AMP
MS
DECK I
R/P HEAD
ERASE HEAD
PB AMP
PB SW
PB SW
LINE OUT
LINE MUTE
PB LEVEL Adj.
LINE IN
INPUT VR.
DECK II
R/P HEAD
ERASE HEAD
RELAY
REC AMP
REC OUT MUTE
REC MUTE
REC LEVEL Adj.
RELAY
AUTO TAPE SELECT
RELAY
BIAS
BIAS OSC
BIAS Adj
HX Pro
D
S
G
Ⓘ
Ⓘ

For CT-WM60R


MS
DECK I
R/P HEAD
ERASE HEAD
PB AMP
PB SW
LINE OUT
LINE MUTE
PB LEVEL Adj.
LINE IN
INPUT VR.
DECK II
PB HEAD
REC AMP
REC OUT MUTE
REC MUTE
REC LEVEL Adj.
AUTO TAPE SELECT
BIAS
BIAS OSC
BIAS Adj.
HX Pro
D
S
G
Ⓘ

6. PCB PARTS LIST

NOTES:

- Parts without part number cannot be supplied.
- Parts marked by " ⊙ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%)
560 Ω → 56 × 10^1 → 561 ································ RD1/4PS $\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ································ RD1/4PS $\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ·· RN2H $\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 010 ·· RS1P $\boxed{0}\boxed{1}\boxed{0}$K
Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62k Ω → 562 × 10^1 → 5621 ································ RN1/4SR $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

6.1 FOR CT-WM70R/KUC TYPE

LIST OF ASSEMBLIES

M. S. METER UNIT
TRANSISTOR A UNIT
TRANSISTOR B UNIT
TRANSISTOR C UNIT
POWER SW UNIT

R. O/C SW UNIT
MAIN UNIT
H. PHONE UNIT
SUB 1 UNIT
SUB 2 UNIT

VR UNIT
DOOR IND UNIT
REMOTE CONTROL RECEPTION UNIT
TRAY SW UNIT
UPPER UNIT

CA MOTOR UNIT
LOADING SW UNIT
RELAY UNIT
CASSETTE HOLDER UNIT
CARRIER DETECT UNIT

TRAY MOTOR UNIT

M.S.METER UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC200	IC	BA15218N
	IC201	OP-AMP IC	BA15218
	IC202	COMPARATOR	BA10393N
	Q200	TRANSISTOR	DTC124TS
	D200-204	DIODE	1SS254

CAPACITORS

	C201	AXIAL CAPACITOR	CKPUYB101K50
	C202	ELECTR. CAPACITOR	CEASR47M50
	C203	AXIAL CAPACITOR	CKPUYB271K50
	C204	ELECTR. CAPACITOR	CEASR22M50
	C205	ELECTR. CAPACITOR	CEAS102M6R3
	C206	ELECTR. CAPACITOR	CEAS470M16
	C207, 208	CERAMIC CAPACITOR	CKCYF473Z50
	C209, 210	ELECTR. CAPACITOR	CEAS100M50
	C211, 212	ELECTR. CAPACITOR	CEASR47M50

RESISTORS

	R201-221	CARBONFILM RESISTOR	RD1/6PM□□□J

OTHERS

	CN201		S5B-XH-A-1
	CN203		S8B-XH-A-1

TRANSISTOR A UNIT

SEMICONDUCTORS

⚠	IC520	REGULATOR IC	NJM78M12FA

CAPACITORS

	C520	ELECTR. CAPACITOR	CEAS470M16

TRANSISTOR B UNIT

SEMICONDUCTORS

⚠	IC530	REGULATOR IC	NJM7812FA

CAPACITORS

	C530	ELECTR. CAPACITOR	CEAS101M25

TRANSISTOR C UNIT

SEMICONDUCTORS

⚠	IC540	REGULATOR IC	NJM78M05FA

CAPACITORS

	C540	ELECTR. CAPACITOR	CEAS102M6R3

POWER SW UNIT

SWITCHES

⚠	S1001	SWITCH	RSA-063

CAPACITORS

⚠	C1001	CAPACITOR (CERAMIC)	RCG-009

R.O/C SW UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D920, 921	DIODE	1SS254

SWITCHES

Mark	No.	Description	Part No.
	S920		RSH1011
	S921, 922	SWITCH	RSG1034

MAIN UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC120	PB-EQ AMP IC	CXA1115BP
	IC160	DOLBY B/C IC	CXA1330S
	IC230	OP-AMP, IC	M5218AL
	IC250	OP-AMP, IC	M5218AL
	IC300	REC EQUALIZER IC	CXA1198AP
	IC301		MC14051BCP
	IC302		MC14052BCP
	IC420	DOLBY HX PRO IC	UPC1297CA
	IC700	CPU	PD3208A
	IC701	LOGIC IC	NJU3715L
	IC702		M6M80011AL
	IC900	MOTOR DRIVER IC	TA7288P
	Q101, 102	N-FET	2SK373
	Q103	TRANSISTOR	XDA124ES
	Q104	TRANSISTOR	XDC124ES
	Q105, 106	TRANSISTOR	2SC3311A
	Q107	TRANSISTOR	XDC124ES
	Q111, 112	N-FET	2SK373
	Q113	TRANSISTOR	XDA124ES
	Q114	TRANSISTOR	XDC124ES
	Q115, 116	TRANSISTOR	2SC3311A
	Q117	TRANSISTOR	XDC124ES
	Q121-128	TRANSISTOR	XDC124ES
	Q129	DIGITAL TRANSISTOR	XDA114ES
	Q130	TRANSISTOR	XDC124ES
	Q161-164	TRANSISTOR	XDC124ES
	Q250	TRANSISTOR	2SA1309A
	Q251, 252	TRANSISTOR	2SD2144S
	Q253	DIGITAL TRANSISTOR	DTA114TS
	Q254	TRANSISTOR	XDC124ES
	Q255	TRANSISTOR	XDA124ES
	Q305, 306	TRANSISTOR	2SC3311A
	Q307-310	N-FET	2SK373
	Q311	TRANSISTOR	2SC3246
	Q312	TRANSISTOR	XDA124ES
	Q315, 316	TRANSISTOR	2SD2144S
	Q400, 401	TRANSISTOR	XDC124ES
	Q402, 403	TRANSISTOR	2SB1238X
	Q404	TRANSISTOR	2SD2144S
	Q405, 406	TRANSISTOR	2SC1815
	Q420	TRANSISTOR	XDC124ES
	Q421, 422	TRANSISTOR	2SA1309A
	Q501, 502	TRANSISTOR	2SD1302
	Q503	TRANSISTOR	2SC1740S
	Q504	DIGITAL TRANSISTOR	XDC144ES
⚠	Q505	TRANSISTOR	2SA1286
	Q506	DIGITAL TRANSISTOR	XDA114ES
	Q701-704	DIGITAL TRANSISTOR	DTC114TS
	Q705	DIGITAL TRANSISTOR	XDA114ES
	Q800, 801	TRANSISTOR	XDA124ES
	Q803	TRANSISTOR	XDC124ES
	Q804	TRANSISTOR	2SA1309A
	Q805	TRANSISTOR	2SA1283
	Q807	TRANSISTOR	2SC3246
	Q808	TRANSISTOR	DTC143ES
	Q850, 851	TRANSISTOR	XDA124ES
	Q853	TRANSISTOR	XDC124ES
	Q854	TRANSISTOR	2SA1309A
	Q855	TRANSISTOR	2SA1283
	Q857	TRANSISTOR	2SC3246
	Q858	TRANSISTOR	DTC143ES
	Q900, 901	TRANSISTOR	2SA1309A
	Q902, 903	TRANSISTOR	DTC143ES
	Q904	TRANSISTOR	2SC1740S
	D101-106	DIODE	1SS254
	D111-116	DIODE	1SS254
	D120	DIODE	1SS254
	D250-256	DIODE	1SS254
	D300-305	DIODE	1SS254
	D401-403	DIODE	1SS254
	D411-414	DIODE	1S2473
	D420, 421	DIODE	1SS254
⚠	D500		S2VB20
	D501, 502	DIODE	1SS254
	D503	ZENER DIODE	MTZJ3.6B
	D504	DIODE	1SS254
⚠	D505		S3V20
⚠	D506	RECRIFIER DIODE	1SR35-100A
	D507	DIODE	1SS254
⚠	D508	RECRIFIER DIODE	1SR35-100A
⚠	D509	ZENER DIODE	MTZJ30B
⚠	D510, 511	ZENER DIODE	MTZJ4.7B
	D700-702	DIODE	1S2473
	D703-709	DIODE	1SS254
	D710	ZENER DIODE	MTZ5.1B
	D711	DIODE	1S2473
	D712	DIODE	1SS254
	D713	DIODE	1S2473
	D800-805	DIODE	1SS254
	D806	DIODE	1SS252
	D807	DIODE	1S2473
	D808, 809	DIODE	1SS254
	D850, 851	DIODE	1S2473
	D852-855	DIODE	1SS254
	D856	DIODE	1SS252
	D857	DIODE	1S2473
	D859	DIODE	1SS254
	D900-904	DIODE	1SS254
	D905	ZENER DIODE	MTZJ5.6B
	D906	DIODE	1SS254

Mark	No.	Description	Part No.
	D907	ZENER DIODE	MTZJ3.6B
	D908-913	DIODE	1SS254
	D914	DIODE	1S2473
	D915	DIODE	1SS254

RELAYS

Mark	No.	Description	Part No.
	RY300		RSR1026
	RY400		RSR1026

COILS/TRANSFORMERS

Mark	No.	Description	Part No.
	L121, 122	COIL	RTF1098
	L301, 302	COIL	RTF1004
	L400	RADIAL INDUCTOR	LFA121K
	L401	COIL	RTD1063
	L421, 422	COIL	RTD1030
	F161, 162	FILTER	RTF1062

CAPACITORS

Mark	No.	Description	Part No.
	C101, 102	AXIAL CERAMIC C.	CCPUSL100J50
	C111, 112	AXIAL CERAMIC C.	CCPUSL100J50
	C120	CERAMIC CAPACITOR	CKCYF103Z50
	C121, 122	AXIAL CAPACITOR	CKPUYB471K50
	C123, 124	AXIAL CAPACITOR	CKPUYB561K50
	C125, 126	ELECTR. CAPACITOR	CEANL100M16
	C127, 128	CERAMIC CAPACITOR	CKPUYB102K50
	C129, 130	ELECTR. CAPACITOR	CEANL100M16
	C131, 132	ELECTR. CAPACITOR	CEANL101M10
	C133-136	AXIAL CAPACITOR	CKPUYB101K50
	C137, 138	AUDIO FILM CAPACITOR	CFTXA822J50
	C139, 140	ELECTR. CAPACITOR	CEAS4R7M50
	C141, 142	AUDIO FILM CAPACITOR	CFTXA223J50
	C143, 144	ELECTR. CAPACITOR	CEAS470M16
	C145, 146	AXIAL CAPACITOR	CKPUYB681K50
	C147, 148	AXIAL CAPACITOR	CKPUYB221K50
	C149, 150	AXIAL CAPACITOR	CKPUYB471K50
	C151, 152	ELECTR. CAPACITOR	CEAS010M50
	C153	CERAMIC CAPACITOR	CKCYF103Z50
	C161-164	ELECTR. CAPACITOR	CEAS100M50
	C165-168	AUDIO FILM CAPACITOR	CFTXA222J50
	C169, 170	ELECTR. CAPACITOR	CEASR22M50
	C171-174	ELECTR. CAPACITOR	CEASR33M50
	C175	ELECTR. CAPACITOR	CEAS100M50
	C176	ELECTR. CAPACITOR	CEAS470M16
	C177, 178	ELECTR. CAPACITOR	CEAS010M50
	C179, 180	ELECTR. CAPACITOR	CEAS4R7M50
	C181, 182	ELECTR. CAPACITOR	CEAS330M16
	C230	ELECTR. CAPACITOR	CEAS101M25
	C231, 232	ELECTR. CAPACITOR	CEASR10M50
	C250, 251	CERAMIC CAPACITOR	CKCYF103Z50
	C252	CERAMIC CAPACITOR	CKCYF473Z50
	C253, 254	AXIAL CERAMIC C.	CCPUSL100J50
	C255, 256	ELECTR. CAPACITOR	CEAS010M50
	C257, 258	AXIAL CAPACITOR	CKPUYB101K50
	C259, 260	ELECTR. CAPACITOR	CEAS100M50
	C261	ELECTR. CAPACITOR	CEAS470M16
	C263, 264	ELECTR. CAPACITOR	CEASR10M50
	C265	ELECTR. CAPACITOR	CEAS010M50
	C266-268	CERAMIC CAPACITOR	CKCYF103Z50
	C301, 302	ELECTR. CAPACITOR	CEAS4R7M50
	C303, 304	ELECTR. CAPACITOR	CEASR47M50
	C305, 306	ELECTR. CAPACITOR	CEAS471M10
	C307, 308	ELECTR. CAPACITOR	CEAS4R7M50
	C309	CERAMIC CAPACITOR	CKCYF103Z50
	C310	ELECTR. CAPACITOR	CEAS331M16
	C311, 312	ELECTR. CAPACITOR	CEAS4R7M50
	C313, 314	AXIAL CAPACITOR	CKPUYB221K50
	C315-318	AXIAL CERAMIC C.	CCPUSL100J50
	C319	CERAMIC CAPACITOR	CKCYF473Z50
	C400	ELECTR. CAPACITOR	CEAS470M16
	C401-403	AUDIO FILM CAPACITOR	CFTXA332J50
	C404	AUDIO FILM CAPACITOR	CFTXA223J50
	C405, 406	ELECTR. CAPACITOR	CEAS470M16
	C407	CAPACITOR	CQPA682J100
	C420	ELECTR. CAPACITOR	CEAS330M16
	C421	ELECTR. CAPACITOR	CEAS4R7M50
	C422	ELECTR. CAPACITOR	CEAS100M50
	C423, 424	AXIAL CAPACITOR	CKPUYB821K50
	C425, 426	CERAMIC CAPACITOR	CKCYF103Z50
	C427, 428	CERAMIC CAPACITOR	CKCYF223Z50
	C429, 430	CERAMIC CAPACITOR	CGCYX473K25
	C431, 432	CERAMIC CAPACITOR	CCCSL101K500
	C433, 434	CERAMIC CAPACITOR	RCG1006
	C435	AXIAL CAPACITOR	CKPUYB101K50
	C436	ELECTR. CAPACITOR	CEASR10M50
	C501-503	CERAMIC CAPACITOR	CKCYF473Z50
	C504	ELECTR. CAPACITOR	CEAS471M16
	C505	ELECTR. CAPACITOR	CEAS472M16
	C506	ELECTR. CAPACITOR	CEAS102M35
	C507	ELECTR. CAPACITOR	CEAS332M35
	C508	ELECTR. CAPACITOR	CEAS220M35
	C509	ELECTR. CAPACITOR	CEAS4R7M50
	C510	CERAMIC CAPACITOR	CKCYF103Z50
	C511	ELECTR. CAPACITOR	CEAS220M35
	C512	CERAMIC CAPACITOR	CKCYF103Z50
	C513	ELECTR. CAPACITOR	CEAS101M50
	C514	ELECTR. CAPACITOR	CEAS221M35
	C515	ELECTR. CAPACITOR	CEAS470M50
	C516	ELECTR. CAPACITOR	CEAS330M50
	C700	ELECTR. CAPACITOR	CEAS470M16
	C701	ELECTR. CAPACITOR	CEAS331M6R3
	C702	CERAMIC CAPACITOR	CKCYF103Z50
	C703	ELECTR. CAPACITOR	CEAS102M6R3
	C704	CERAMIC CAPACITOR	CKCYF103Z50
	C705-707	CERAMIC CAPACITOR	CCDSL151J50
	C708-711	CERAMIC CAPACITOR	CKCYF103Z50
	C900, 901	CERAMIC CAPACITOR	CKCYF473Z50
	C902	ELECTR. CAPACITOR	CEAS100M50
	C903	CERAMIC CAPACITOR	CKCYF473Z50
	C904	ELECTR. CAPACITOR	CEAS220M35

RESISTORS

Mark	No.	Description	Part No.
	R101-106	CARBONFILM RESISTOR	RD1/6PM□□□J
	R111-116	CARBONFILM RESISTOR	RD1/6PM□□□J
	R121-145	CARBONFILM RESISTOR	RD1/6PM□□□J
	R161-176	CARBONFILM RESISTOR	RD1/6PM□□□J
	R231-234	CARBONFILM RESISTOR	RD1/6PM□□□J
	R250-272	CARBONFILM RESISTOR	RD1/6PM□□□J
	R273	CARBONFILM RESISTOR	RD1/4PM□□□J
	R274, 275	CARBONFILM RESISTOR	RD1/6PM□□□J
	R301, 302	CARBONFILM RESISTOR	RD1/4PM□□□J
	R303, 304	CARBONFILM RESISTOR	RD1/6PM□□□J
	R307, 308	CARBONFILM RESISTOR	RD1/6PM□□□J
	R309, 310	CARBONFILM RESISTOR	RD1/4PM□□□J
	R311-347	CARBONFILM RESISTOR	RD1/6PM□□□J
	R349-356	CARBONFILM RESISTOR	RD1/6PM□□□J
	R361-365	CARBONFILM RESISTOR	RD1/6PM□□□J
	R400-403	CARBONFILM RESISTOR	RD1/6PM□□□J
	R404, 405	CARBONFILM RESISTOR	RD1/2PM□□□J
	R406-408	CARBONFILM RESISTOR	RD1/6PM□□□J
⚠	R409	METAL OXIDE RESISTOR	RS1LMF□□□J
	R411, 412	CARBONFILM RESISTOR	RD1/6PM□□□J
	R413, 414	CARBONFILM RESISTOR	RD1/2LF□□□J
	R415	CARBONFILM RESISTOR	RD1/6PM□□□J
	R420-428	CARBONFILM RESISTOR	RD1/6PM□□□J
	R501-509	CARBONFILM RESISTOR	RD1/6PM□□□J
⚠	R510	FUSLIBLE RESISTOR	RFA1/4L□□□J
⚠	R511	CARBONFILM RESISTOR	RD1/2PM□□□J
	R512, 513	CARBONFILM RESISTOR	RD1/6PM□□□J
	R700-706	CARBONFILM RESISTOR	RD1/6PM□□□J
	R707, 708	CARBONFILM RESISTOR	RD1/4PM□□□J
	R709-713	CARBONFILM RESISTOR	RD1/6PM□□□J
	R720	RESISTOR ARRAY (47K)	RA12T□□□J
	R730	RESISTOR ARRAY (10K)	RA8T□□□J
	R740	RESISTOR ARRAY (22K)	RA6T□□□J
	R760	RESISTOR ARRAY (2. 2K)	RA3T□□□J
	R770	RESISTOR ARRAY (22K)	RA5T□□□J
	R780	RESISTOR ARRAY (22K)	RA4T□□□J
	R781-783	CARBONFILM RESISTOR	RD1/6PM□□□J
	R801	CARBONFILM RESISTOR	RD1/6PM□□□J
	R804-808	CARBONFILM RESISTOR	RD1/6PM□□□J
	R810	METALFILM RESISTOR	RN1/6PQ□□□□F
	R811		RCN1053
	R851, 852	CARBONFILM RESISTOR	RD1/6PM□□□J
	R854-858	CARBONFILM RESISTOR	RD1/6PM□□□J
	R860	METALFILM RESISTOR	RN1/6PQ□□□□F
	R861		RCN1053
	R900-911	CARBONFILM RESISTOR	RD1/6PM□□□J
	R912-914	CARBONFILM RESISTOR	RD1/4PM□□□J
	R915, 916	CARBONFILM RESISTOR	RD1/6PM□□□J
	VR121-124	VR	RCP1046
	VR301-304	VR	RCP1084
	VR421-424	VR	RCP1084
	VR801	VR	RCP1090
	VR802	VR	RCP1045
	VR851	VR	RCP1090

OTHERS

Mark	No.	Description	Part No.
	CN202		5JQ-BT
	CN204		8JQ-BT
	CN700	CONNECTOR	HLEM7S-1
	CN800	CONNECTOR(15P)	KPE15
	CN850	CONNECTOR(14P)	KPE14
	CN902	CONNECTOR	HLEM9S-1
	JA250	JACK	RKB1001
	JA260	JACK	RKN1014
	JA270	JACK	RKN1004
	JA280	JACK	RKN1004
	X700	CERAMIC RESONATOR	VSS1014

H.PHONE UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q241, 242	TRANSISTOR	2SD2144S

CAPACITORS

Mark	No.	Description	Part No.
	C241, 242	ELECTR. CAPACITOR	CEAS101M25
	C243	CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	R241, 242	CARBONFILM RESISTOR	RD1/4PM□□□J
	R243, 244	CARBONFILM RESISTOR	RD1/6PM□□□J
	R245, 246	CARBONFILM RESISTOR	RD1/4PM□□□J

OTHERS

Mark	No.	Description	Part No.
	JA240	JACK	RKN1002

SUB 1 UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q601	TRANSISTOR	2SC1740S
	D601-610	DIODE	1SS254

SWITCHES

Mark	No.	Description	Part No.
	S601-623	SWITCH	RSG1034
	CN601		BTMK15S-1S

RESISTORS

Mark	No.	Description	Part No.
	R601, 602	CARBONFILM RESISTOR	RD1/6PM□□□J

OTHERS

Mark	No.	Description	Part No.
	CN602		BTMK14S-1S
	V601		RAW1114

SUB 2 UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D631-634	DIODE	1SS254

SWITCHES

Mark	No.	Description	Part No.
	S631-639	SWITCH	RSG1033

VR UNIT

RESISTORS

Mark	No.	Description	Part No.
	R641-644	CARBONFILM RESISTOR	RD1/6PM□□□J
	VR641	VARIABLE RESISTOR	RCV1075

DOOR IND UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D651-656	LED	REL1007

RESISTORS

Mark	No.	Description	Part No.
	R651-656	CARBONFILM RESISTOR	RD1/6PM□□□J

REMOTE CONTROL RECEPTION UNIT

OTHERS

Mark	No.	Description	Part No.
		REMOTE SENSOR	HC-177

TRAY SW UNIT

SWITCHES

Mark	No.	Description	Part No.
	S941-943	PUSH SWITCH	DSG1016

UPPER UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D931-936	DIODE	1SS254

SWITCHES

Mark	No.	Description	Part No.
	S931-936	PUSH SWITCH	DSG1015

CA MOTOR UNIT

There is no supply part in this unit.

LOADING SW UNIT

SWITCHES

Mark	No.	Description	Part No.
	S961	PUSH SWITCH	DSG1015

RELAY UNIT

OTHERS

Mark	No.	Description	Part No.
	CN932	CONNECTOR	HLEM9S-1

CASSETTE HOLDER UNIT

SWITCHES

Mark	No.	Description	Part No.
	S951		RSK1003

CARRIER DETECT UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q930		GP1A52HR

CAPACITORS

Mark	No.	Description	Part No.
	C930	CERAMIC CAPACITOR	CKPUYF223Z25

RESISTORS

Mark	No.	Description	Part No.
	R930	CARBONFILM RESISTOR	RD1/6PM□□□J

TRAY MOTOR UNIT

There is no supply part in this unit.

6.2 FOR CT-WM60R/KUC TYPE

LIST OF ASSEMBLIES

M.S. METER UNIT
TRANSISTOR A UNIT
TRANSISTOR B UNIT
TRANSISTOR C UNIT
POWER SW UNIT

R. O/C SW UNIT
MAIN UNIT
SUB 1 UNIT
SUB 2 UNIT
VR UNIT

DOOR IND UNIT
TRAY SW UNIT
UPPER UNIT
CA MOTOR UNIT
LOADING SW UNIT

RELAY UNIT
CASSETTE HOLDER UNIT
CARRIER DETECT UNIT
TRAY MOTOR UNIT

M.S. METER UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC200	IC	BA15218N
	IC201	OP-AMP IC	BA15218
	IC202	COMPARATOR	BA10393N
	Q200	TRANSISTOR	DTC124TS
	D200-204	DIODE	1SS254

CAPACITORS

Mark	No.	Description	Part No.
	C201	AXIAL CAPACITOR	CKPUYB101K50
	C202	ELECTR. CAPACITOR	CEASR47M50
	C203	AXIAL CAPACITOR	CKPUYB271K50
	C204	ELECTR. CAPACITOR	CEASR22M50
	C205	ELECTR. CAPACITOR	CEAS102M6R3
	C206	ELECTR. CAPACITOR	CEAS470M16
	C207, 208	CERAMIC CAPACITOR	CKCYF473Z50
	C209, 210	ELECTR. CAPACITOR	CEAS100M50
	C211, 212	ELECTR. CAPACITOR	CEASR47M50

RESISTORS

Mark	No.	Description	Part No.
	R201-221	CARBONFILM RESISTOR	RD1/6PM□□□J

OTHERS

Mark	No.	Description	Part No.
	CN201		S5B-XH-A-1
	CN203		S8B-XH-A-1

TRANSISTOR A UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
⚠	IC520	REGULATOR IC	NJM78M12FA

CAPACITORS

Mark	No.	Description	Part No.
	C520	ELECTR. CAPACITOR	CEAS470M16

TRANSISTOR B UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
⚠	IC530	REGULATOR IC	NJM7812FA

CAPACITORS

Mark	No.	Description	Part No.
	C530	ELECTR. CAPACITOR	CEAS101M25

TRANSISTOR C UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
⚠	IC540	REGULATOR IC	NJM78M05FA

CAPACITORS

Mark	No.	Description	Part No.
	C540	ELECTR. CAPACITOR	CEAS102M6R3

POWER SW UNIT

SWITCHES

Mark	No.	Description	Part No.
⚠	S1001	SWITCH	RSA-063

CAPACITORS

Mark	No.	Description	Part No.
⚠	C1001	CAPACITOR (CERAMIC)	RCG-009

R. O/C SW UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D920, 921	DIODE	1SS254

SWITCHES

Mark	No.	Description	Part No.
	S920		RSH1011
	S921, 922	SWITCH	RSG1034

MAIN UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC120	PB-EQ AMP IC	CXA1115BP
	IC160	DOLBY B/C IC	CXA1330S
	IC250	OP-AMP, IC	M5218AL
	IC300	REC EQUALIZER IC	CXA1198AP
	IC301		MC14051BCP
	IC420	DOLBY HX PRO IC	UPC1297CA
	IC700	CPU	PD3208A
	IC701	LOGIC IC	NJU3715L
	IC702		M6M80011AL
	IC900	MOTOR DRIVER IC	TA7288P
	Q101, 102	N-FET	2SK373
	Q103	TRANSISTOR	XDA124ES
	Q104	TRANSISTOR	XDC124ES
	Q105, 106	TRANSISTOR	2SC3311A
	Q107	TRANSISTOR	XDC124ES
	Q115, 116	TRANSISTOR	2SC3311A
	Q117	TRANSISTOR	XDC124ES
	Q121-128	TRANSISTOR	XDC124ES
	Q129	DIGITAL TRANSISTOR	XDA114ES
	Q130	TRANSISTOR	XDC124ES
	Q161-164	TRANSISTOR	XDC124ES
	Q250	TRANSISTOR	2SA1309A
	Q251, 252	TRANSISTOR	2SD2144S
	Q253	DIGITAL TRANSISTOR	DTA114TS
	Q254	TRANSISTOR	XDC124ES
	Q255	TRANSISTOR	XDA124ES
	Q305, 306	TRANSISTOR	2SC3311A
	Q312	TRANSISTOR	XDA124ES
	Q315, 316	TRANSISTOR	2SD2144S
	Q400, 401	TRANSISTOR	XDC124ES
	Q402, 403	TRANSISTOR	2SB1238X
	Q404	TRANSISTOR	2SD2144S
	Q405, 406	TRANSISTOR	2SC1815
	Q420	TRANSISTOR	XDC124ES
	Q421, 422	TRANSISTOR	2SA1309A
	Q501, 502	TRANSISTOR	2SD1302
	Q503	TRANSISTOR	2SC1740S
	Q504	DIGITAL TRANSISTOR	XDC144ES
⚠	Q505	TRANSISTOR	2SA1286
	Q506	DIGITAL TRANSISTOR	XDA114ES
	Q701-704	DIGITAL TRANSISTOR	DTC114TS
	Q705	DIGITAL TRANSISTOR	XDA114ES
	Q800, 801	TRANSISTOR	XDA124ES
	Q803	TRANSISTOR	XDC124ES
	Q804	TRANSISTOR	2SA1309A
	Q805	TRANSISTOR	2SA1283
	Q807	TRANSISTOR	2SC3246
	Q808	TRANSISTOR	DTC143ES
	Q851	TRANSISTOR	XDA124ES
	Q853	TRANSISTOR	XDC124ES
	Q854	TRANSISTOR	2SA1309A
	Q855	TRANSISTOR	2SA1283
	Q857	TRANSISTOR	2SC3246
	Q858	TRANSISTOR	DTC143ES
	Q900, 901	TRANSISTOR	2SA1309A
	Q902, 903	TRANSISTOR	DTC143ES
	Q904	TRANSISTOR	2SC1740S
	D101-106	DIODE	1SS254
	D120	DIODE	1SS254
	D250-256	DIODE	1SS254
	D300	DIODE	1SS254
	D401, 402	DIODE	1SS254
	D420, 421	DIODE	1SS254
⚠	D500		S2VB20
	D501, 502	DIODE	1SS254
	D503	ZENER DIODE	MTZJ3. 6B
	D504	DIODE	1SS254
⚠	D505		S3V20
⚠	D506	RECRIFIER DIODE	1SR35-100A
	D507	DIODE	1SS254
⚠	D508	RECRIFIER DIODE	1SR35-100A
⚠	D509	ZENER DIODE	MTZJ30B
⚠	D510, 511	ZENER DIODE	MTZJ4. 7B
	D700-702	DIODE	1S2473
	D703-709	DIODE	1SS254
	D710	ZENER DIODE	MTZ5. 1B
	D711	DIODE	1S2473
	D712	DIODE	1SS254
	D713	DIODE	1S2473
	D800-805	DIODE	1SS254

Mark	No.	Description	Part No.
	D806	DIODE	1SS252
	D807	DIODE	1S2473
	D808, 809	DIODE	1SS254
	D851	DIODE	1S2473
	D853-855	DIODE	1SS254
	D856	DIODE	1SS252
	D857	DIODE	1S2473
	D859	DIODE	1SS254
	D900-904	DIODE	1SS254
	D905	ZENER DIODE	MTZJ5. 6B
	D906	DIODE	1SS254
	D907	ZENER DIODE	MTZJ3. 6B
	D908-913	DIODE	1SS254
	D914	DIODE	1S2473
	D915	DIODE	1SS254

COILS/TRANSFORMERS

Mark	No.	Description	Part No.
	L121, 122	COIL	RTF1098
	L301, 302	COIL	RTF1004
	L400	RADIAL INDUCTOR	LFA121K
	L401	COIL	RTD1062
	L421, 422	COIL	RTD1046
	F161, 162	FILTER	RTF1062

CAPACITORS

Mark	No.	Description	Part No.
	C101, 102	AXIAL CERAMIC C.	CCPUSL100J50
	C120	CERAMIC CAPACITOR	CKCYF103Z50
	C121, 122	AXIAL CAPACITOR	CKPUYB471K50
	C123, 124	AXIAL CAPACITOR	CKPUYB561K50
	C125, 126	ELECTR. CAPACITOR	CEANL100M16
	C127, 128	CERAMIC CAPACITOR	CKPUYB102K50
	C129, 130	ELECTR. CAPACITOR	CEANL100M16
	C131, 132	ELECTR. CAPACITOR	CEANL101M10
	C133-136	AXIAL CAPACITOR	CKPUYB101K50
	C137, 138	AUDIO FILM CAPACITOR	CFTXA822J50
	C139, 140	ELECTR. CAPACITOR	CEAS4R7M50
	C141, 142	AUDIO FILM CAPACITOR	CFTXA223J50
	C143, 144	ELECTR. CAPACITOR	CEAS470M16
	C145, 146	AXIAL CAPACITOR	CKPUYB681K50
	C147, 148	AXIAL CAPACITOR	CKPUYB221K50
	C149, 150	AXIAL CAPACITOR	CKPUYB471K50
	C151, 152	ELECTR. CAPACITOR	CEAS010M50
	C153	CERAMIC CAPACITOR	CKCYF103Z50
	C161-164	ELECTR. CAPACITOR	CEAS100M50
	C165-168	AUDIO FILM CAPACITOR	CFTXA222J50
	C169, 170	ELECTR. CAPACITOR	CEASR22M50
	C171-174	ELECTR. CAPACITOR	CEASR33M50
	C175	ELECTR. CAPACITOR	CEAS100M50
	C176	ELECTR. CAPACITOR	CEAS470M16
	C177, 178	ELECTR. CAPACITOR	CEAS010M50
	C179, 180	ELECTR. CAPACITOR	CEAS4R7M50
	C181, 182	ELECTR. CAPACITOR	CEAS330M16
	C250, 251	CERAMIC CAPACITOR	CKCYF103Z50
	C252	CERAMIC CAPACITOR	CKCYF473Z50
	C253, 254	AXIAL CERAMIC C.	CCPUSL100J50
	C255, 256	ELECTR. CAPACITOR	CEAS010M50
	C257, 258	AXIAL CAPACITOR	CKPUYB101K50
	C259, 260	ELECTR. CAPACITOR	CEAS100M50
	C261	ELECTR. CAPACITOR	CEAS470M16
	C263, 264	ELECTR. CAPACITOR	CEASR10M50
	C265	ELECTR. CAPACITOR	CEAS010M50
	C266-268	CERAMIC CAPACITOR	CKCYF103Z50
	C301, 302	ELECTR. CAPACITOR	CEAS4R7M50
	C303, 304	ELECTR. CAPACITOR	CEASR47M50
	C305, 306	ELECTR. CAPACITOR	CEAS471M10
	C307, 308	ELECTR. CAPACITOR	CEAS4R7M50
	C309	CERAMIC CAPACITOR	CKCYF103Z50
	C310	ELECTR. CAPACITOR	CEAS331M16
	C311, 312	ELECTR. CAPACITOR	CEAS4R7M50
	C313, 314	AXIAL CAPACITOR	CKPUYB221K50
	C319	CERAMIC CAPACITOR	CKCYF473Z50
	C400	ELECTR. CAPACITOR	CEAS470M16
	C401-403	AUDIO FILM CAPACITOR	CFTXA332J50
	C404	AUDIO FILM CAPACITOR	CFTXA223J50
	C405, 406	ELECTR. CAPACITOR	CEAS470M16
	C407	CAPACITOR	CQPA682J100
	C420	ELECTR. CAPACITOR	CEAS330M16
	C421	ELECTR. CAPACITOR	CEAS4R7M50
	C422	ELECTR. CAPACITOR	CEAS100M50
	C423, 424	AXIAL CAPACITOR	CKPUYB821K50
	C425, 426	CERAMIC CAPACITOR	CKCYF103Z50
	C427, 428	CERAMIC CAPACITOR	CKCYF223Z50
	C429, 430	CERAMIC CAPACITOR	CGCYX473K25
	C431, 432	CERAMIC CAPACITOR	CCCSL101K500
	C433, 434	CERAMIC CAPACITOR	RCG1005
	C435	AXIAL CAPACITOR	CKPUYB101K50
	C436	ELECTR. CAPACITOR	CEASR10M50
	C501-503	CERAMIC CAPACITOR	CKCYF473Z50
	C504	ELECTR. CAPACITOR	CEAS471M16
	C505	ELECTR. CAPACITOR	CEAS472M16
	C506	ELECTR. CAPACITOR	CEAS102M35
	C507	ELECTR. CAPACITOR	CEAS332M35
	C508	ELECTR. CAPACITOR	CEAS220M35
	C509	ELECTR. CAPACITOR	CEAS4R7M50
	C510	CERAMIC CAPACITOR	CKCYF103Z50
	C511	ELECTR. CAPACITOR	CEAS220M35
	C512	CERAMIC CAPACITOR	CKCYF103Z50
	C513	ELECTR. CAPACITOR	CEAS101M50
	C514	ELECTR. CAPACITOR	CEAS221M35
	C515	ELECTR. CAPACITOR	CEAS470M50
	C516	ELECTR. CAPACITOR	CEAS330M50
	C700	ELECTR. CAPACITOR	CEAS470M16
	C701	ELECTR. CAPACITOR	CEAS331M6R3
	C702	CERAMIC CAPACITOR	CKCYF103Z50
	C703	ELECTR. CAPACITOR	CEAS102M6R3
	C704	CERAMIC CAPACITOR	CKCYF103Z50
	C705-707	CERAMIC CAPACITOR	CCDSL151J50
	C708-711	CERAMIC CAPACITOR	CKCYF103Z50
	C900, 901	CERAMIC CAPACITOR	CKCYF473Z50
	C902	ELECTR. CAPACITOR	CEAS100M50

Mark	No.	Description	Part No.
	C903	CERAMIC CAPACITOR	CKCYF473Z50
	C904	ELECTR. CAPACITOR	CEAS220M35

RESISTORS

Mark	No.	Description	Part No.
	R101-106	CARBONFILM RESISTOR	RD1/6PM□□□J
	R113-115	CARBONFILM RESISTOR	RD1/6PM□□□J
	R121-145	CARBONFILM RESISTOR	RD1/6PM□□□J
	R161-176	CARBONFILM RESISTOR	RD1/6PM□□□J
	R250-272	CARBONFILM RESISTOR	RD1/6PM□□□J
	R273	CARBONFILM RESISTOR	RD1/4PM□□□J
	R274,275	CARBONFILM RESISTOR	RD1/6PM□□□J
	R301,302	CARBONFILM RESISTOR	RD1/4PM□□□J
	R303,304	CARBONFILM RESISTOR	RD1/6PM□□□J
	R305,306	CARBONFILM RESISTOR	RD1/6PM□□□J
	R307,308	CARBONFILM RESISTOR	RD1/6PM□□□J
	R309,310	CARBONFILM RESISTOR	RD1/4PM□□□J
	R311-347	CARBONFILM RESISTOR	RD1/6PM□□□J
	R355,356	CARBONFILM RESISTOR	RD1/6PM□□□J
	R361-365	CARBONFILM RESISTOR	RD1/6PM□□□J
	R400-403	CARBONFILM RESISTOR	RD1/6PM□□□J
	R404,405	CARBONFILM RESISTOR	RD1/2PM□□□J
	R406-408	CARBONFILM RESISTOR	RD1/6PM□□□J
⚠	R409	METAL OXIDE RESISTOR	RS1LMF□□□J
	R411,412	CARBONFILM RESISTOR	RD1/6PM□□□J
	R413	CARBONFILM RESISTOR	RD1/2LF□□□J
	R415	CARBONFILM RESISTOR	RD1/6PM□□□J
	R420-428	CARBONFILM RESISTOR	RD1/6PM□□□J
	R501-509	CARBONFILM RESISTOR	RD1/6PM□□□J
⚠	R510	FUSLIBLE RESISTOR	RFA1/4L□□□J
⚠	R511	CARBONFILM RESISTOR	RD1/2PM□□□J
	R512,513	CARBONFILM RESISTOR	RD1/6PM□□□J
	R700-706	CARBONFILM RESISTOR	RD1/6PM□□□J
	R707,708	CARBONFILM RESISTOR	RD1/4PM□□□J
	R709-713	CARBONFILM RESISTOR	RD1/6PM□□□J
	R720	RESISTOR ARRAY (47K)	RA12T□□□J
	R730	RESISTOR ARRAY (10K)	RA8T□□□J
	R740	RESISTOR ARRAY (22K)	RA6T□□□J
	R760	RESISTOR ARRAY (2.2K)	RA3T□□□J
	R770	RESISTOR ARRAY (22K)	RA5T□□□J
	R780	RESISTOR ARRAY (22K)	RA4T□□□J
	R781-783	CARBONFILM RESISTOR	RD1/6PM□□□J
	R801	CARBONFILM RESISTOR	RD1/6PM□□□J
	R804-808	CARBONFILM RESISTOR	RD1/6PM□□□J
	R810	METALFILM RESISTOR	RN1/6PQ□□□□F
	R811		RCN1053
	R851	CARBONFILM RESISTOR	RD1/6PM□□□J
	R852	CARBONFILM RESISTOR	RD1/6PM□□□J
	R854-858	CARBONFILM RESISTOR	RD1/6PM□□□J
	R860	METALFILM RESISTOR	RN1/6PQ□□□□F
	R861		RCN1053
	R900-911	CARBONFILM RESISTOR	RD1/6PM□□□J
	R912-914	CARBONFILM RESISTOR	RD1/4PM□□□J
	R915,916	CARBONFILM RESISTOR	RD1/6PM□□□J
	VR121-124	VR	RCP1046
	VR303,304	VR	RCP1084
	VR421,422	VR	RCP1084
	VR801	VR	RCP1090
	VR802	VR	RCP1045
	VR851	VR	RCP1090

OTHERS

Mark	No.	Description	Part No.
	CN202		5JQ-BT
	CN204		8JQ-BT
	CN700	CONNECTOR	HLEM7S-1
	CN800	CONNECTOR(15P)	KPE15
	CN850	CONNECTOR(14P)	KPE12
	CN902	CONNECTOR	HLEM9S-1
	JA250	JACK	RKB1001
	JA260	JACK	RKN1014
	JA270	JACK	RKN1004
	JA280	JACK	RKN1004
	X700	CERAMIC RESONATOR	VSS1014

SUB 1 UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q601	TRANSISTOR	2SC1740S
	D601-610	DIODE	1SS254

SWITCHES

Mark	No.	Description	Part No.
	S601-623	SWITCH	RSG1034
	CN601		BTMK15S-1S

RESISTORS

Mark	No.	Description	Part No.
	R601,602	CARBONFILM RESISTOR	RD1/6PM□□□J

OTHERS

Mark	No.	Description	Part No.
	CN602		BTMK14S-1S
	V601		RAW1114

SUB 2 UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D631-634	DIODE	1SS254

SWITCHES

Mark	No.	Description	Part No.
	S631-639	SWITCH	RSG1033

VR UNIT

RESISTORS

Mark	No.	Description	Part No.
	R641-644	CARBONFILM RESISTOR	RD1/6PM□□□J
	VR641	VARIABLE RESISTOR	RCV1075

DOOR IND UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D651-656	LED	REL1007

RESISTORS

Mark	No.	Description	Part No.
	R651-656	CARBONFILM RESISTOR	RD1/6PM□□□J

TRAY SW UNIT

SWITCHES

Mark	No.	Description	Part No.
	S941-943	PUSH SWITCH	DSG1016

Mark	No.	Description	Part No.
UPPER UNIT			
SEMICONDUCTORS			
	D931-936	DIODE	1SS254
SWITCHES			
	S931-936	PUSH SWITCH	DSG1015
CA MOTOR UNIT			
There is no supply part in this unit.			
LOADING SW UNIT			
SWITCHES			
	S961	PUSH SWITCH	DSG1015
RELAY UNIT			
OTHERS			
	CN932	CONNECTOR	HLEM9S-1
CASSETTE HOLDER UNIT			
SWITCHES			
	S951		RSK1003
CARRIER DETECT UNIT			
SEMICONDUCTORS			
	Q930		GP1A52HR
CAPACITORS			
	C930	CERAMIC CAPACITOR	CKPUYF223Z25
RESISTORS			
	R930	CARBONFILM RESISTOR	RD1/6PM□□□J
TRAY MOTOR UNIT			
There is no supply part in this unit.			

7. ADJUSTMENTS

7.1 MECHANICAL ADJUSTMENT

- Perform this adjustment in the test mode.
- TEST mode setting.

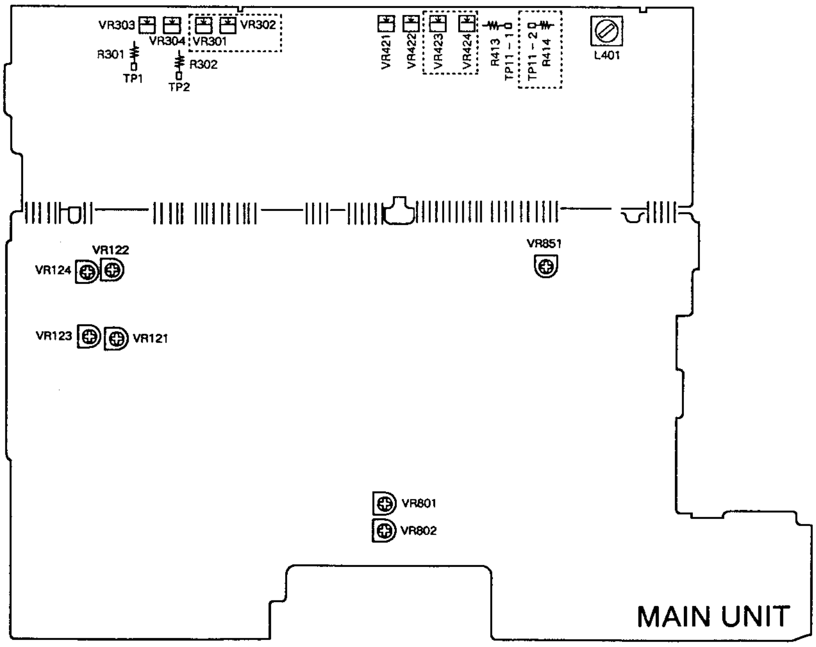
Short-circuit the JP701 and JP702 for a moment. (Set into TEST mode.)

Mode	Operation	Display
DECK I Double speed play	Press the FAST key (side I) in the side I PLAY mode to set to the double speed PLAY mode. (To transfer to the other modes, press the STOP key first.)	C-1
DECK II Double speed play	Press the FAST key (side II) in the side II PLAY mode to set to the double speed PLAY mode. (To transfer to the other modes, press the STOP key first.)	C-2

To cancel the TEST mode, press the DECK I COUNTER RESET key or turn off the power.

1. Tape Speed Adjustment and Check

No.	Deck	Mode	Test tape	Adjusting points	Specifications/Ratings (playback frequency)	Remarks
1	II	Normal speed PLAY	STD-301 (3 kHz)	After playing back for 1 minute.		
2		Double speed PLAY		check	6000 Hz ± 600 Hz	
3		Normal speed PLAY		VR851	3000Hz ± 5Hz.	
4	I			After checking, play back deck I.		
5				After playing back for 1 minute.		
6		Double speed PLAY		VR802	Within ± 10 Hz against the measurement value of the step 2 (deck II)	
7		Nomal speed PLAY		VR801	3000 Hz ± 5 Hz	


VR303
VR304
VR301
VR302
R301
R302
TP1
TP2
VR421
VR422
VR423
VR424
R413
TP11 - 1
TP11 - 2
R414
L401
VR122
VR124
VR851
VR123
VR121
VR801
VR802
MAIN UNIT

CT - WR70R ONLY

Fig. 7–1 Adjusting points

7.2 ELECTRICAL ADJUSTMENTS

Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and demagnetized.
3. Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
4. The reference signal is 0 dBV=1 Vrms.
5. Connect a 50 kΩ (or between 47k to 52 kΩ) load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.
   DOLBY NR : OFF
   TAPE SELECTOR : NORM

Test Tapes

STD–331E	: Playback adjustments (See Fig. 7–2)
STD–631	: NORMAL blank tape
STD–621	: CrO2 blank tape
STD–610	: METAL blank tape

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback level adjustment.

Recording sections

1. Bias oscillator adjustment.
2. Recording bias adjustment.
3. Recording level adjustment.
4. Level meter check.

NOTE: This unit has an automatic tape selection feature.

* As the reference recording level is 250 nwb/m for STD–331E, the recording level will be higher by 4 dB for STD–331B (160 nwb/m). When adjusting, pay carefull attention to the type of tape used.

HX Pro headroom extension originated by Bang & Olufsen and manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY",the double-D symbol ◻◻, and "HX PRO" are trademarks of Doldy Laboratories Licensing Corporation.

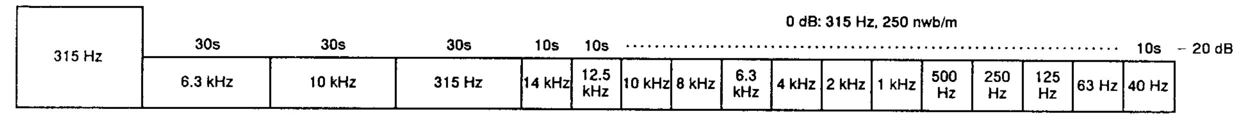
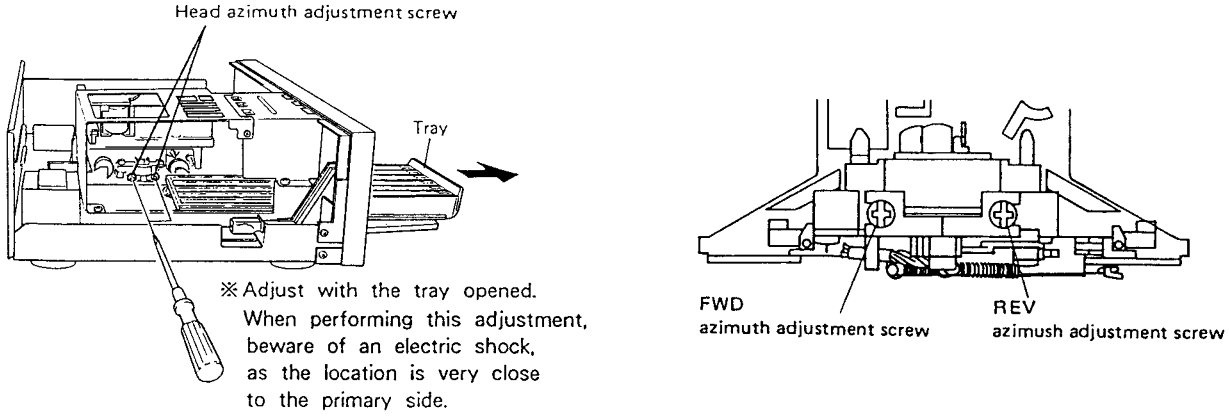

0 dB
30s
315 Hz
0 dB: 315 Hz, 250 nwb/m
30s
6.3 kHz
30s
10 kHz
30s
315 Hz
10s
14 kHz
10s
12.5 kHz
10 kHz
8 kHz
6.3 kHz
4 kHz
2 kHz
1 kHz
500 Hz
250 Hz
125 Hz
63 Hz
10s
40 Hz
– 20 dB

Fig. 7–2 Constants of the test tape STD–331E


Head azimuth adjustment screw
Tray
FWD
azimuth adjustment screw
REV
azimush adjustment screw

※Adjust with the tray opened.
When performing this adjustment, beware of an electric shock, as the location is very close to the primary side.

Fig. 7–3 Head azimuth adjustment

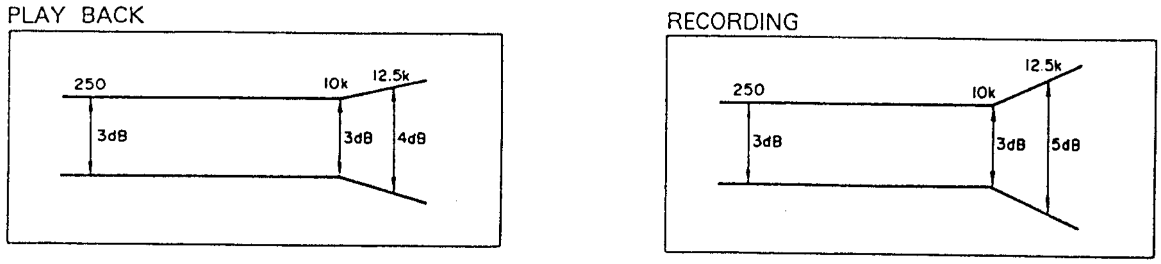


Fig. 7–4 Frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

- Turn VR123, 124 (Deck I) or VR121, 122 (Deck II) to mechanical center positions.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 10 kHz/–20 dB section of STD–331E test tape.	Head azimuth adjustment screw. (See Fig. 7–3)	LINE OUT	Maximum playback signal level.	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Level Adjustment

- This adjustment determines the DOLBY NR level, and must be performed with great care.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	PLAY	Play the 315 Hz/0 dB section of the STD–331E test tape.	Deck I	VR 123 (Lch) VR 124 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	–6.7 dBV	
			Deck II	VR 121 (Lch) VR 122 (Rch)			

RECORDING SECTION

1. Bias Oscillator Adjustment

- Adjust the bias oscillator with checks set to recording mode simultaneously.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC	Load the STD–610 test tape with no input signal.	Deck I	L 401 (Adjustment)	TP. 11-1	105kHz ± 0.3kHz	
			Deck II *1	L 401 (Check)	TP. 11-2	105kHz ± 6kHz	

Check Deck II. When NG, adjust so that it becomes the lower limits of the adjustment value. Finally complete by checking that Deck I is 105 kHz ± 6 kHz.
*1: CT-WM70R only

2. Recording Bias Adjustment

- Adjust the bias oscillator with decks I and II set to recording mode independently.
- After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC	Record the 315 Hz and 6.3 kHz signals at –20 dBV input level and playback.	Deck I	VR421 (Lch) VR422 (Rch)	LINE OUT	Repeatedly record, playback and adjust so that the plyaback level of 6.3 kHz signal becomes +0.5 dB ± 0.5 dB when compared with the 315 Hz signal.	
			Deck II *1	VR423 (Lch) VR424 (Rch)			

*1: CT-WM70R only

3. Recording Level Adjustment

- Adjust the bias oscillator with decks I and II set to recording mode independently.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz/ − 4 dBV signal to the line input terminals, load the STD–631 test tape.	REC level control volume		TP. 1 (Lch) TP. 2 (Rch)	−11.2 dBV	
2.	STOP	Set the DOLBY NR switch to the ON position. (DOLBY B)					
3	REC/ PLAY	Record the above signal onto the STD–631 test tape, and playback.	Deck I	VR303 (Lch) VR304 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	Repeatedly record, playback and adjust so that the playback signal level becomes − 11.2dB.	
			Deck II *1	VR301 (Lch) VR302 (Rch)			
4.	REC/ PLAY	Record the above signal onto the STD–621 test tape, and playback.	Check		TP. 1 (Lch) TP. 2 (Rch)	−11.2 dBV ± 1.5 dB	
5.	REC/ PLAY	Record the above signal onto the STD–610 test tape, and playback.	Check		TP. 1 (Lch) TP. 2 (Rch)	−11.2 dBV ± 1.5 dB	

*1: CT-WM70R only

4. Level Meter Check

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC/ PAUSE	Apply a 315 Hz/−14 dBV (316 mV) signal to the Line Input terminals.	REC level control volume	TP. 1 (Lch) TP. 2 (Rch)	Check that the level meters "0 dB" light up within −7.2 dBV ± 2 dB of the signal output level.	

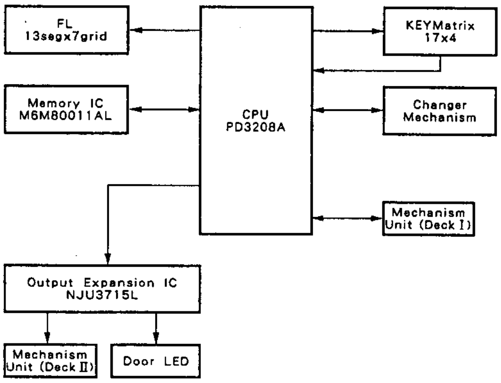
8. IC DESCRIPTIONS

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

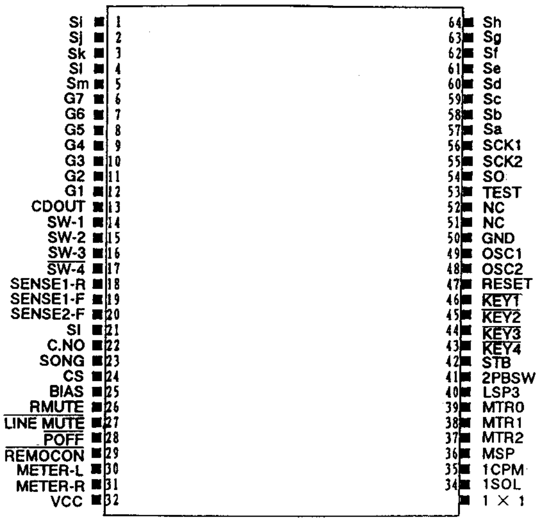
8.1 PD3208A (IC700)

- **System Control**

Block Diagram of Perlheral CPU


FL
13segx7grid
Memory IC
M6M80011AL
CPU
PD3208A
KEYMatrix
17x4
Changer
Mechanism
Mechanism
Unit (Deck I)
Output Expansion IC
NJU3715L
Mechanism
Unit (Deck II)
Door LED

Terminal Connections


Si 1
Sj 2
Sk 3
Sl 4
Sm 5
G7 6
G6 7
G5 8
G4 9
G3 10
G2 11
G1 12
CDOUT 13
SW-1 14
SW-2 15
SW-3 16
SW-4 17
SENSE1-R 18
SENSE1-F 19
SENSE2-F 20
SI 21
C.NO 22
SONG 23
CS 24
BIAS 25
RMUTE 26
LINE MUTE 27
POFF 28
REMOCON 29
METER-L 30
METER-R 31
VCC 32
64 Sh
63 Sg
62 Sf
61 Se
60 Sd
59 Sc
58 Sb
57 Sa
56 SCK1
55 SCK2
54 SO
53 TEST
52 NC
51 NC
50 GND
49 OSC1
48 OSC2
47 RESET
46 KEY1
45 KEY2
44 KEY3
43 KEY4
42 STB
41 2PBSW
40 LSP3
39 MTR0
38 MTR1
37 MTR2
36 MSP
35 1CPM
34 1SOL
1 × 1

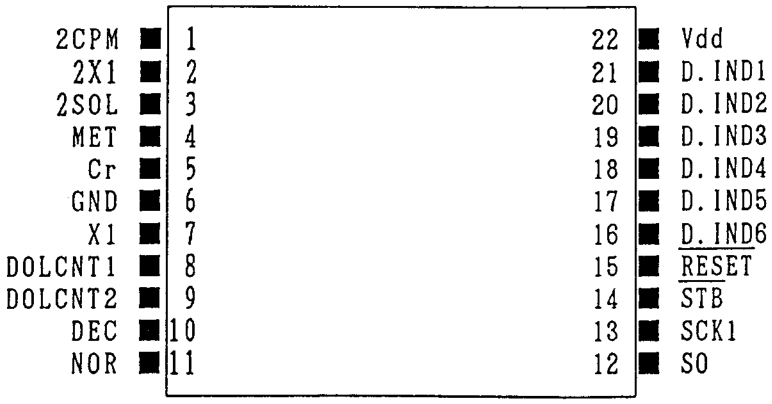
Pin Descriptions

Pin No.	Name	Description
1	Si	Segment output, key scan output
2	Sj	
3	Sk	
4	Sl	
5	Sm	
6	G7	Grid output, key scan output
7	G6	
8	G5	
9	G4	
10	G3	Grid output
11	G2	
12	G1	
13	CDOUT	CD synchronous control output
14	SW-1	Tray SW input. ON at "L"
15	SW-2	
16	SW-3	
17	$\overline{\text{SW-4}}$	Loading position detection SW input. ON at "H"
18	SENSE1-R	Sensing pulse input at supply side of side 1
19	SENSE1-F	Sensing pulse input at take–up side of side 1
20	SENSE2-F	Sensing pulse input at take–up side of side 2
21	SI	Memory communication data input
22	C. NO	Photo interrupter input
23	SONG	Song detection input. Song at "H"

Pin No.	Name	Description
24	$\overline{\text{CS}}$	Chip enable output. Memory selection at "L"
25	BIAS	Bias control output. ON at "H"
26	REC MUTE	REC mute control output. ON at "H"
27	$\overline{\text{LINE MUTE}}$	Line mute control output. ON at "L"
28	$\overline{\text{POFF}}$	Power off pulse input. Interruption at "H" to "L"
29	$\overline{\text{REMOCON}}$	Remote control unit pulse input
30	METER-L	Lch meter input
31	METER-R	Rch meter input
32	Vcc	Power supply terminal (+5V)
33	1 × 1	1 mechanism double speed control. Double speed at "L"
34	1SOL	1 mechanism solenoid control. ON at "H"
35	1CPM	1 mechanism capstan motor control. ON at "H"
36	MSP	Changer motor speed control output. "H" during tray operation
37	MTR2	Changer motor rotating direction control output. Right of carrier and back of tray at "H"
38	MTR1	Changer motor selection control output. Tray motor at "H"
39	MTR0	Changer motor selection control output. Carrier motor at "H"
40	LSP	Changer motor speed control output. Speed reduction at "H"
41	2PBSW	REC/PB head switching control output
42	STB	Output expansion IC communication strobe output
43	$\overline{\text{KEY4}}$	Key scan return data input
44	$\overline{\text{KEY3}}$	
45	$\overline{\text{KEY2}}$	
46	$\overline{\text{KEY1}}$	
47	RESET	Reset pulse input Reset at "H"
48	OSC2	Clock output
49	OSC1	Clock input
50	GND	GND terminal
51	NC	–
52	NC	
53	TEST	Connect to +5V
54	SO	Memory, output expansion IC communication data output
55	SCK2	Memory communication clock output
56	SCK1	Output expansion IC communication clock output
57	Sa	Segment output, key scan output, level scan output. − 20dB
58	Sb	Segment output, key scan output, level scan output. − 10dB
59	Sc	Segment output, key scan output, level scan output. − 6dB
60	Sd	Segment output, key scan output, level scan output. − 3dB
61	Se	Segment output, key scan output, level scan output. 0dB
62	Sf	Segment output, key scan output, level scan output. +3dB
63	Sg	Segment output, key scan output, level scan output. +6dB
64	Sh	Segment output, key scan output

8.2 NJU3715L (IC701)

- **Mechanism Control**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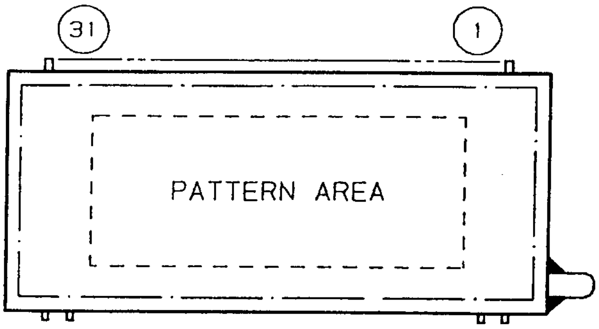
2X1 2
2SOL 3
MET 4
Cr 5
GND 6
X1 7
DOLCNT1 8
DOLCNT2 9
DEC 10
NOR 11
22 Vdd
21 D.IND1
20 D.IND2
19 D.IND3
18 D.IND4
17 D.IND5
16 D.IND6
15 RESET
14 STB
13 SCK1
12 SO

Pin Descriptions

Pin No.	Name	Description
1	2CPM	2 mechanism capstan motor control. ON at "H"
2	2 × 1	2 mechanism × 2 speed control. × 2 speed at "L"
3	2SOL	2 mechanism solenoid control. Solenoid ON at "H"
4	MET	Recording equalizer control
5	CrO2	
6	GND	GND
7	X1	Amplifier system control during double speed. Double speed at "L"
8	DOLCNT1	Dolby switching control
9	DOLCNT2	
10	DEC	Decode control
11	NOR	Playback equalizer control
12	SO	Communication data input
13	SCK1	Communication clock input
14	$\overline{\text{STB}}$	Strobe signal input
15	$\overline{\text{RESET}}$	Reset signal input
16	D. IND6	Tray LED display control output
17	D. IND5	
18	D. IND4	
19	D. IND3	
20	D. IND2	
21	D. IND1	
22	Vcc	Power supply terminal (+5V)

● FL INFORMATION



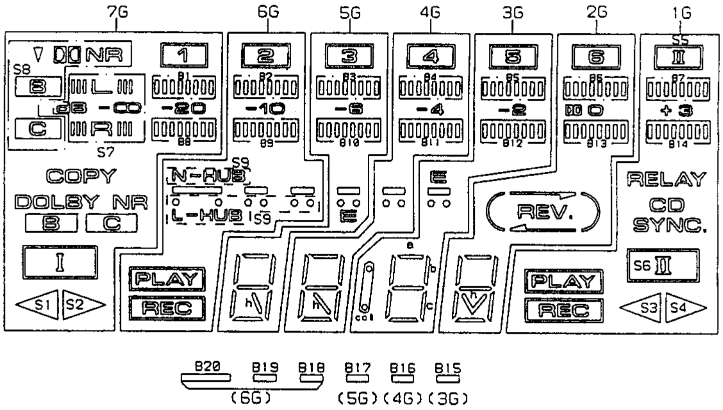
31
1
PATTERN AREA

Pin Connection

PIN NO.	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	NP	P1	P2	P3	P4	P5	P13	P12	P11	P10	P6	P7	P8	P9	NC	NC	NC	NC	7G	6G	5G	4G	3G	2G	1G	P14	NP	F1	F1

NOTE
1) F1,F2 --- Filament
2) NP ------ No pin
3) NC ------ No connection
4) 1G~7G --- Grid

Grid Assignment



7G
6G
5G
4G
3G
2G
1G
S5
S8
DD NR
1
2
3
4
5
6
Ⅱ
B
C
L
R
-20
-10
-6
-4
-2
+3
S7
S9
COPY
DOLBY NR
N-HUB
L-HUB
RELAY
CD
SYNC.
REV.
S6 Ⅲ
Ⅰ
PLAY
REC
S1
S2
S3
S4
a
b
c
col
h
B20
B19
B18
B17
B16
B15
(6G)
(5G)(4G)(3G)

Anode Connection

	7G	6G	5G	4G	3G	2G	1G
P1	1	2	3	4	5	6	Ⅱ (S5)
P2	B1	B2	B3	B4	B5	B6	B7
P3	-20	-10	-6	-4	-2	DD 0	+3
P4	B8	B9	B10	B11	B12	B13	B14
P5	S7	B18	B17	B16	B15	(REV.)	–
P6	B	B19	h	h	col	h	–
P7	C	B20	g	g	g	g	RELAY
P8	COPY	–	f	f	f	f	CD SYNC.
P9	Ⅰ	–	e	e	e	e	Ⅲ (S6)
P10	▷ (S2)	–	d	d	d	d	▷ (S4)
P11	◁ (S1)	–	c	c	c	c	◁ (S3)
P12	S8	PLAY	b	b	b	b	PLAY
P13	–	REC	a	a	a	a	REC
P14	DOLBY NR	S9	○○ E	○ ○	E ○○	⟶ ⟵	–

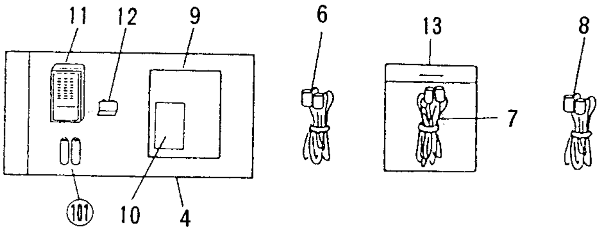
9. PACKING

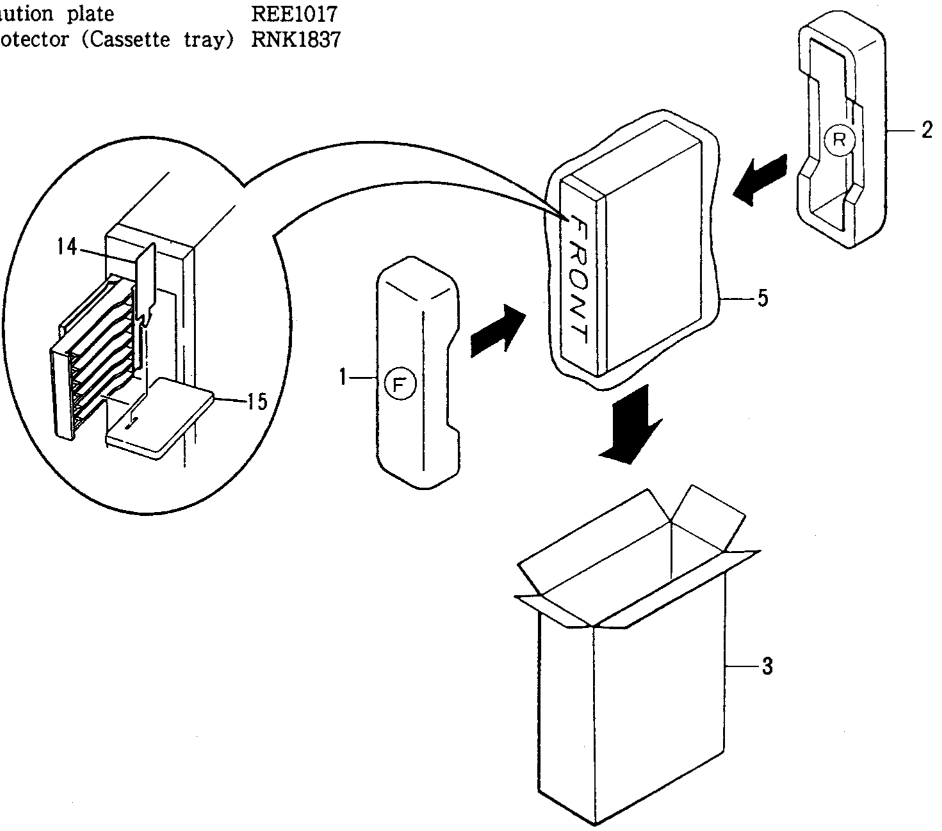
NOTES:

- The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Parts List

Mark	No.	Description	Part No.
	1	Pad (F)	RHA1044
	2	Pad (R)	RHA1045
	3	Packing case (CT-WM70R)	RHG1384
		Packing case (CT-WM60R)	RHG1385
	4	Plastic bag (CT-WM70R only)	RHL1001
	5	Sheet	RHX1007
	6	Connection cord (with mini plug)	PDE-319
	7	Connection cord	RDE-010
	8	Control cord	RDE1031
	9	Operating instructions (English, French)	RRE1058
	10	Title seal	RRW1065
	11	Remote control unit (CT-WM70R only)	RPX1044
	12	Battery cover (CT-WM70R only)	PZN1001
	13	Connection cord assembly	RDE1002
	14	Caution plate	REE1017
	15	Protector (Cassette tray)	RNK1837
	101	Dry cell battery (R03, AAA) (CT-WM70R only)	VEM-022





10. OPERATIONS

The basic operations of the changer mechanism consist of combinations of movements to the front and back (tray opening and closing) and movements to the left and right (carrier).

10.1 TRAY CLOSE OPERATIONS

As shown in Fig. 10–1, the cam gear ③ of the driving system operating the tray ① and drive plate ② has a cam which turns SW1 to SW3 of the tray SW unit ④ in Fig. A on/off.

The relation of positions of the tray and drive plate are shown in the timing chart of Fig. 10–2.

When tray close operations are performed, the motor ⑤ rotates in the arrow direction as shown in Fig. 10–1,'and its rotation force is transmitted to the pulley gear ⑦, drive gear C ⑧, cam gear ③, drive gear A ⑨ via the O/C belt ⑥, and the tray ① moves in the close direction (arrow direction).

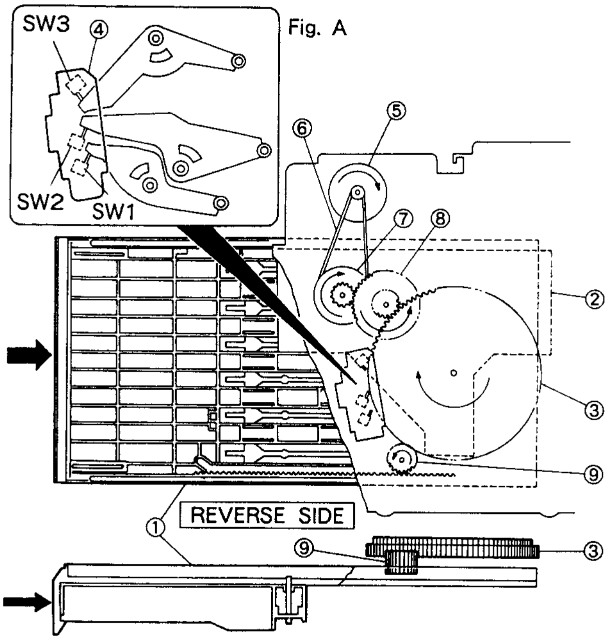


Fig. A

Fig. 10–1

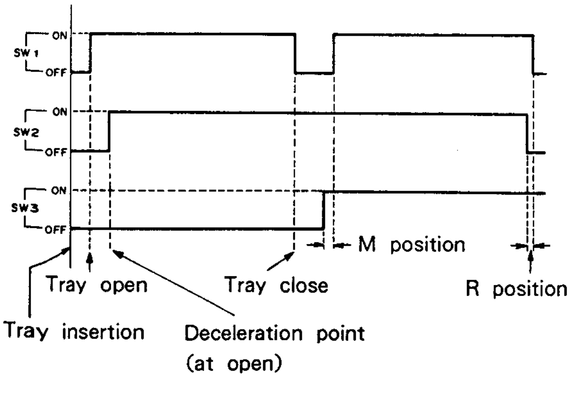


Fig. 10–2

The drive plate ② which moves the cassette half behind the mechanism maintains its conditions because drive gear B ⑩ and the cam gear ③ are not engaged and because it is locked by cam lever B ⑪.

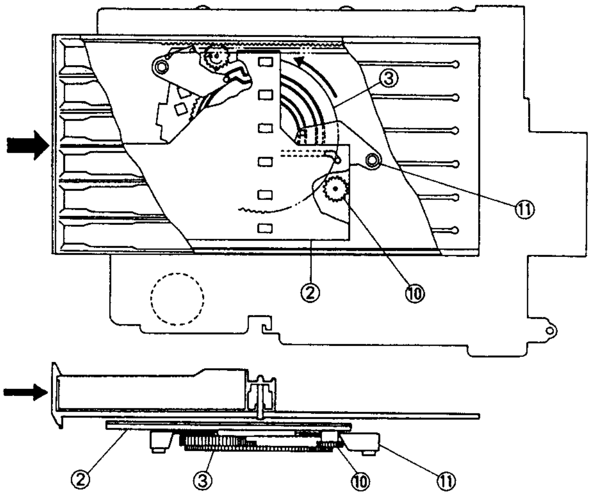


Fig. 10–3

When the tray ① is moved to the close position, cam lever A ⑬ locks the tray with the rotation force of the cam gear ③, as shown in Fig. 10–4. At the same time, the engagement of drive gear A ⑨ and the cam gear ③ is released. Next, the drive plate ② which is locked by cam lever B ⑪ is released, and drive gear B ⑩ and the cam gear ③ become engaged. The drive plate ② moves to the M position shown in the timing chart (Fig. 10–2.).

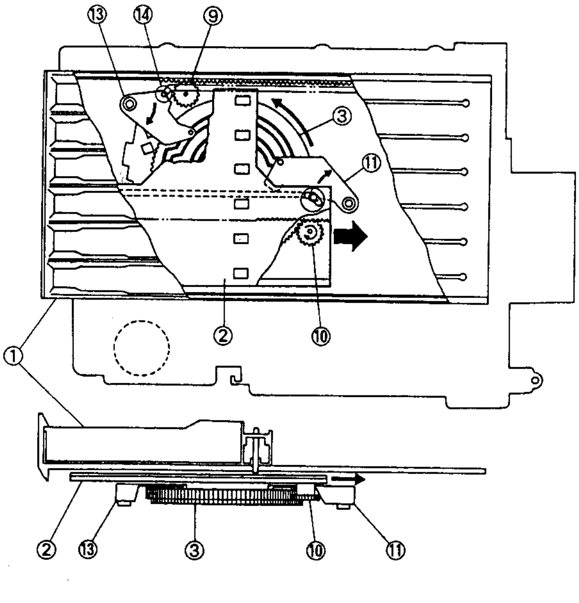


Fig. 10–4

10.2 TRAY OPEN OPERATION

This operation is the reverse of close operation. The drive plate ② moves slightly forwards, and is locked by cam lever B ⑪. At the same time, drive gear B ⑩ and cam gear ③ become disengaged. Next, cam lever A ⑬ is unlocked, drive gear A ⑨ and cam gear ③ becomes engaged. and the tray ① moves to the tray open position shown in the timing chart (Fig. 10–2.).

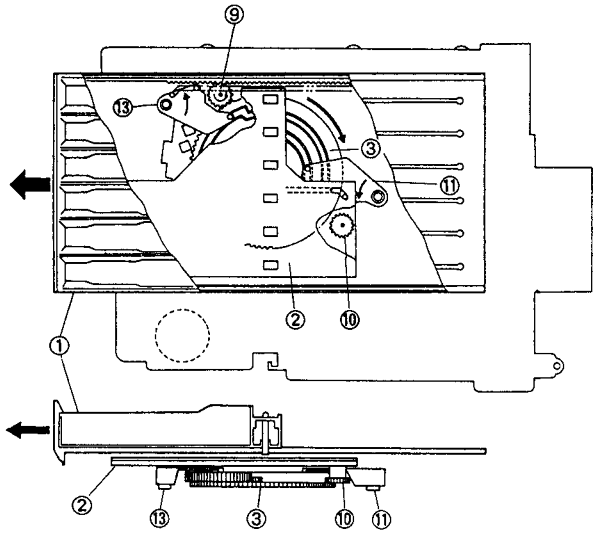


Fig. 10–5

10.3 LOADING OPERATIONS OF FIRST CASSETTE TAPE

(In tray open condition)

When key operations for loading the first cassette tape are performed, the carrier ⑭ moves in the arrow direction from the cassette mechanism position (home position) to the first cassette tape position as shown in Fig. 10–6.

The position of the carrier ⑭ is detected by counting the presence/absence of the slit of the sensing plate ⑯ with the photo interrupter ⑮ mounted.

The carrier ⑭ is equipped with a selector ⑰ as shown in Figs. 10–6, 10–7, which pushes the stopper pin ⑲ mounted to the cassette holder ⑱. (Same as the original mechanism.)

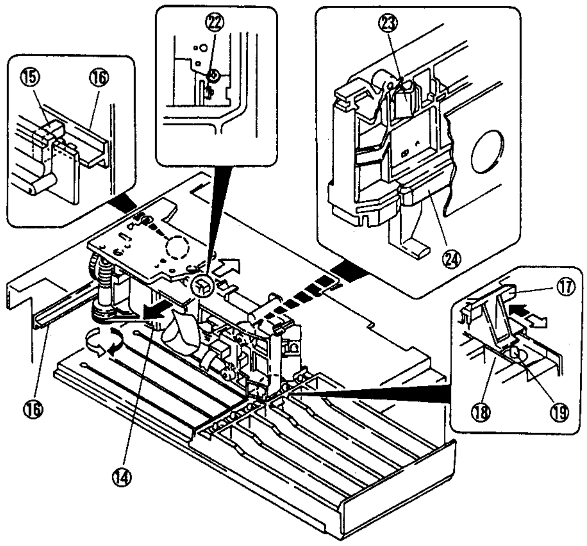


Fig. 10–6

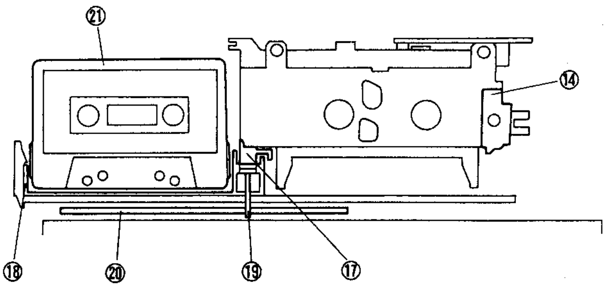


Fig. 10–7

The drive plate ⑳ moves backwards. However, as the drive plate ⑳ and the stopper pin ⑲ are linked, the cassette half ㉑ moves backwards until the R position shown in the timing chart (Fig. 10–2.).

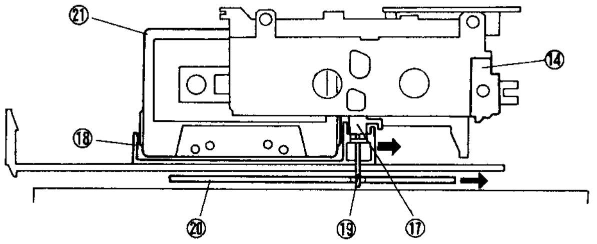


Fig. 10–8

The cassette half ㉑ is handed over to the carrier ⑭ as shown in Fig. 10–9, and the carrier ⑭ returns to the cassette mechanism position (home position).

The home position is detected by the SW4 (㉒ of Fig. 10–6) mounted on the carrier ⑭.

Like the original mechanism, the cassette half ㉑ is pressed to the cassette mechanism by the cassette pressure B (㉔ of Fig. 10–6) mounted to the carrier ⑭.

*If the tray is opened with the cassette half ㉑ loaded onto the cassette mechanism, the loaded cassette tape can be detected easily as the color of the cassette holder ⑱ is gray. (Like before, even if the cassette half ㉑ is mounted on the loaded cassette tape, and the tray close operation is made, it will immediately open in the reverse direction.)

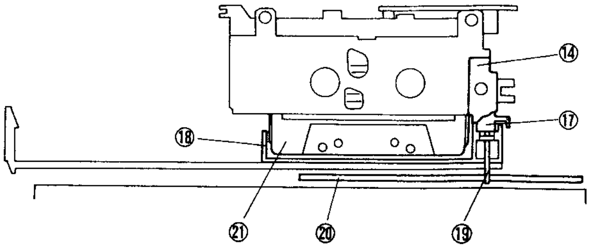


Fig. 10–9

10.4 RETURN OPERATIONS OF FIRST CASSETTE TAPE

This operation is the reverse of the first cassette tape loading operation. The carrier ⑭ loading the cassette half ㉑ moves to the first cassette tape position (arrow direction) as shown in Fig. 10–10. The selector at the rear pushes the stopper pin ⑲ of the cassette holder ⑱ standing by as well at the rear position and links it to the drive plate (Pin ⑳ of Fig. 10–9.). This causes the cassette half ㉑ to move forwards to the M position shown in the timing chart (Fig. 10–2.).

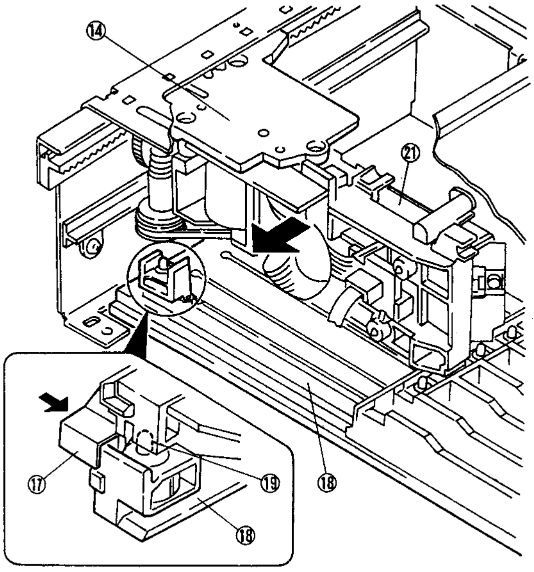


Fig. 10–10

10.5 CASSETTE DIRECT CHANGE OPERATIONS

Performed by combining first cassette tape loading operations and first cassette tape return operations.

11. FOR CT-WM70R/SD AND CT-WM60R/SD TYPES

11.1 CONTRAST OF MISCELLANEOUS PARTS FOR CT-WM70R/SD TYPE

NOTES:

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

CT-WM70R/SD and CT-WM70R/KUC have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		CT-WM70R/KUC	CT-WM70R/SD	
	Main unit	Non supply	Non supply	
⚠	Strain relief	CM-22C	CM-22B	
⚠	AC power cord	PDG1015	PDG1013	
⚠	Line voltage selector (AC110/120-127/220/240V)	......	PSB1002	
⚠	Power transformer (AC120V)	RTT1197	......	
⚠	Power transformer (AC110/120-127/220/240V)	......	RTT1198	
⚠	FU501, 502 Fuse (1.5A)	REK1001	......	
⚠	FU501, 502 Fuse (1.6A)	......	REK-102	
	Packing case	RHG1384	RHG1386	
	Connection cord (with mini plug)	PDE-319	......	
	Operating instructions (Spanish)	......	RRD1125	

MAIN UNIT

Main unit of CT-WM70R/SD and Main unit of CT-WM70R/KUC have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		CT-WM70R/KUC	CT-WM70R/SD	
	JA270, 280	RKN1004	......	

11.2 CONTRAST OF MISCELLANEOUS PARTS FOR CT-WM60R/SD TYPE

NOTES:

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

CT-WM60R/SD and CT-WM60R/KUC have the same construction except for the following:

Mark	Symbol & Description	Part No.		Remarks
		CT-WM60R/KUC	CT-WM60R/SD	
	Main unit	Non supply	Non supply	
⚠	Strain relief	CM-22C	CM-22B	
⚠	AC power cord	PDG1015	PDG1013	
⚠	Line voltage selector (AC110/120-127/220/240V)	......	PSB1002	
⚠	Power transformer (AC120V)	RTT1197	......	
⚠	Power transformer (AC110/120-127/220/240V)	......	RTT1198	
⚠	FU501, 502 Fuse (1.5A)	REK1001	......	
⚠	FU501, 502 Fuse (1.6A)	......	REK-102	
	Stopper	VEC1061	......	
	Insulator	VNK1095	......	
	Leg assembly	......	REC-369	
	Packing case	RHG1385	RHG1387	
	Operating instructions (Spanish)	......	RRD1125	

MAIN UNIT

Although main unit of CT-WM60R/SD and main unit of CT-WM60R/KUC are different in part number, they consist of the same components.

12. SPECIFICATIONS

CT-WM70R

System	4-track, 2-channel stereo
Heads	"Hard Permalloy" recording/playback head × 2 "Ferrite"erasing head × 2
Motors	DC servo motor (capstan) × 2 DC motor (open/close, loading) × 2
Wow and flutter	No more than 0.09% (WRMS)
Fast winding time	Approximately 120 seconds (C-60 tape)
Frequency response	
−20 dB recording:	
TYPE I (Normal) tape	20 to 17,000 Hz, ±6 dB
TYPE II (CrO_2) tape	20 to 18,000 Hz, ±6 dB
TYPE IV (Metal) tape	20 to 19,000 Hz, ±6 dB
Signal-to-Noise ratio	
Dolby NR OFF	More than 58 dB
Noise reduction effect	
Dolby B type NR ON	More than 10 dB (at 5 kHz)
Dolby C type NR ON	More than 19 dB (at 5 kHz)
Harmonic distortion	No more than 0.8% (−4 dB)
Input (Sensitivity)	
LINE (INPUT)	112 mV (Input impedance 57 kΩ)
Output (Reference level)	
LINE (OUTPUT)	0.5 V (Output impedance 5.6 kΩ)
Phones	0.63 mW (Load impedance 8 Ω)

Miscellaneous

Power requirements	
U.S., Canadian models	AC 120 Volts, 60 Hz
Multi-voltage model	AC 110 V/120 V~127 V/ 220 V/240 V (switchable), 50/60 Hz
Power consumption	
U.S., Canadian models	24 W
Multi-voltage model	25 W
Dimensions	420 (W) × 136 (H) × 364 (D) mm 16-9/16(W) × 5-3/8(H) × 14-5/16(D) in
Weight (without package)	7.2 kg (15 lb 9 oz)

Accessories

Operating instructions	1
Connection cord with pin plugs	2
CD•DECK SYNCHRO control cord	1
System remote control cord (U.S. and Canadian models only)	1
Remote control unit	1
Dry cell batteries "AAA" [IEC R03 (UM-4)]	2
Cassette labels	1

Subfunctions

- DOLBY NR B/C types
- DOLBY HX PRO
- DOLBY NR memory
- High-speed and normal-speed tape copying (DECK II→DECK I)
- Edit copying (DECK I→DECK II)
- Relay edit copying (DECK I→DECK II)
- Synchronized copy start
- Blank skip
- Music search over ±15 selections
- CD•DECK SYNCHRO recording capability (DECK I only)
- Tape counter/Time counter
- Tape Remaining Time indicators (6 seg; DECK I only)
- FL peak level meter (7 seg + ∞)
- Automatic space recording mute
- One-touch recording pause
- Automatic tape selector
- Automatic reverse
- Phones jack
- TIMER RELAY Recording/TIMER Playback (DECK I only)
- System remote control compatible (U.S. and Canadian models only)
- Relay recording/Relay playback (DECK I only)
- All rewind (at high speed, on DECK I only)
- Cassette random playback (DECK I only)
- Cassette scan playback (DECK I only)
- Powered eject (DECK I only)

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

CT-WM60R

System	4-track, 2-channel stereo
Heads	"Hard Permalloy" recording/playback head × 1 "Hard Permalloy" playback head × 1 "Ferrite"erasing head × 1
Motors	DC servo motor (capstan) × 2 DC motor (open/close, loading) × 2
Wow and flutter	No more than 0.09% (WRMS)
Fast winding time	Approximately 120 seconds (C-60 tape)
Frequency response	
−20 dB recording:	
TYPE I (Normal) tape	20 to 17,000 Hz, ±6 dB
TYPE II (CrO_2) tape	20 to 18,000 Hz, ±6 dB
TYPE IV (Metal) tape	20 to 19,000 Hz, ±6 dB
Signal-to-Noise ratio	
Dolby NR OFF	More than 58 dB
Noise reduction effect	
Dolby B type NR ON	More than 10 dB (at 5 kHz)
Dolby C type NR ON	More than 19 dB (at 5 kHz)
Harmonic distortion	No more than 0.8% (−4 dB)
Input (Sensitivity)	
LINE (INPUT)	112 mV (Input impedance 57 kΩ)
Output (Reference level)	
LINE (OUTPUT)	0.5 V (Output impedance 5.6 kΩ)

Miscellaneous

Power requirements	
U.S., Canadian models	AC 120 Volts, 60 Hz
Multi-voltage model	AC 110 V/120 V~127 V/220 V/240 V (switchable), 50/60 Hz
Power consumption	24 W
Dimensions	
U.S., Canadian models	420 (W) × 136 (H) × 364 (D) mm 16-9/16(W) × 5-3/8(H) × 14-5/16(D) in
Multi-voltage model	420 (W) × 130 (H) × 364 (D) mm 16-9/16 (W) × 5-1/8 (H) × 14-5/16 (D) in
Weight (without package)	7.2 kg (15 lb 9 oz)

Accessories

Operating instructions	1
Connection cord with pin plugs	2
CD•DECK SYNCHRO control cord	1
System remote control cord	1
Cassette labels	1

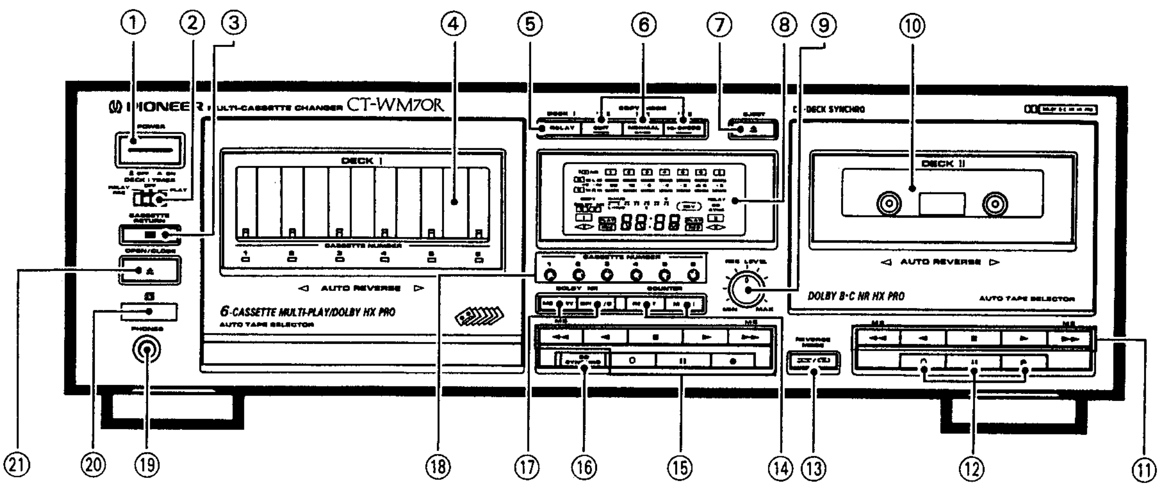
Subfunctions

- DOLBY NR B/C types
- DOLBY HX PRO (DECK I only)
- DOLBY NR memory
- High-speed and normal-speed tape copying (DECK II→DECK I)
- Synchronized copy start
- Blank skip
- Music search over ±15 selections
- CD•DECK SYNCHRO recording capability (DECK I only)
- Tape counter/Time counter
- Tape Remaining Time indicators (6 seg; DECK I only)
- FL peak level meter (7 seg + ∞)
- Automatic space recording mute
- One-touch recording pause
- Automatic tape selector
- Automatic reverse
- TIMER RELAY Recording/TIMER Playback (DECK I only)
- System remote control compatible
- Relay recording/Relay playback (DECK I only)
- All rewind (at high speed, on DECK I only)
- Cassette random playback (DECK I only)
- Cassette scan playback (DECK I only)
- Powered eject (DECK I only)

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

13. PANEL FACILITIES

CT-WM70R



① **POWER (▀ OFF ▄ ON) switch**
When the POWER switch is pressed to turn the cassette deck on, the 6 cassette indicators on the cassette door flash to indicate that the circuits are warming up. After about 10 seconds, the circuits become stable and the cassette deck can be operated.
All the indicators in the display window will light when the power is turned on. The display will be set to its normal state when one of the operation buttons is pressed.

② **DECK I TIMER (RELAY REC, OFF, PLAY) switch**
Use this switch to select the timer relay recording or timer relay playback functions.

③ **CASSETTE RETURN button**
Press this button to return the loaded cassette to the tray.

④ **DECK I cassette door and tray**
All of the cassette indicators on the cassette door flash while the cassette deck is warming up. When the cassette door is closed and there are cassettes on the tray, the indicators for the tray slots which contain cassette tapes (including the currently loaded tape) will light. When a cassette is being loaded from the tray, the corresponding indicator flashes.

⑤ **RELAY button**
Press this button to select relay recording or relay playback. The RELAY indicator lights when relay mode is selected.

⑥ **COPY MODE buttons (CT-WM70R)**

EDIT (I▷II): Press this button to perform tape editing and copying from DECK I to DECK II.

NORMAL (I◁II): Press this button to copy a tape from DECK II to DECK I.

HI-SPEED (I◁II): Press this button to copy a tape from DECK II to DECK I at twice the normal speed.

⑥'**DECK I operation buttons (CT-WM60R)**

RANDOM

CASSETTE SCAN

ALL REWIND: Press this button to rewind (at high speed) all the cassette tapes in DECK I to the beginning of side A, beginning with the cassette in the lowest numbered slot "ALL" appears on the multifunction display when the button is pressed.

⑦ **DECK II eject button (EJECT)**
Press this button to open the cassette door of DECK II.

NOTE:
The cassette door cannot be opened while the tape is running (recording, playback, etc.). Press the stop (■) button of DECK II before pressing this button.

⑧ **Display window**

⑨ **REC LEVEL control knob**

⑩ **DECK II cassette door**

⑪ **DECK II operation buttons**

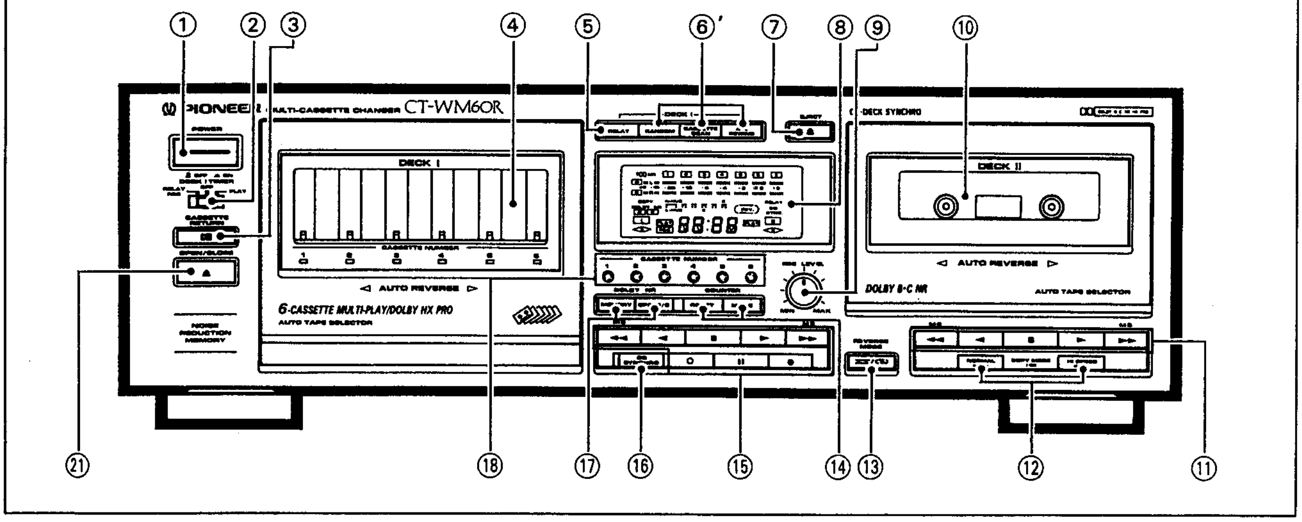
Fast forward (▶▶): If this button is pressed during stop mode, the tape is fast-forwarded in the direction of the arrows (towards the end of side A or the beginning of side B). If it is pressed during playback, the cassette deck skips forward one selection for each press of the button (up to 15 selections), and playback resumes at the beginning of the designated selection.

Forward play (▶): During stop mode, press this button to begin playback of side A; that is, the side facing outward (forward playback).
During recording standby mode, press this button to begin recording on side A.

Stop (■): Press this button to stop the tape transport.

Reverse play (◀): Press this button to begin playback of side B; that is, the side facing the rear of the cassette deck (reverse playback).
During recording standby mode, press this button to begin recording on side B.

CT-WM60R



Fast reverse (◀◀): If this button is pressed during stop mode, the tape is fast-forwarded in the direction of the arrows (towards the beginning of side A or the end of side B). If it is pressed during playback, the playback position skips backward by one selection for each press of the button (up to 15 selections), and playback resumes at the beginning of the designated selection.

⑫ DECK II operation buttons (CT-WM70R)

Recording (●): When this button is pressed, the cassette deck enters recording standby mode. Recording begins when the play (▶ or ◀) button or pause (▮▮) button is pressed.

Pause (▮▮): Press this button to temporarily pause recording or playback. Press the button again to resume recording or playback. The pause button cannot be used during fast-forward or fast-reverse. If this button is pressed after the recording (●) button is pressed, recording will begin.

Recording mute (○): When this button is pressed during recording, the cassette deck creates a 4-second blank space on the tape and then enters recording standby mode. If the button is pressed and held, the deck continues to create a blank space until the button is released.

⑫'COPY MODE I◁II buttons (CT-WM60R)

NORMAL: Press this button to copy a tape from DECK II to DECK I.

HI SPEED: Press this button to copy a tape from DECK II to DECK I at twice the normal speed.

⑬ REVERSE MODE button

Use this button to choose the tape transport mode.

⇌ : One way mode. Tape transport stops after one side of a tape is played or recorded.
When relay mode is selected, after one cassette ends, playback or recording (of one side only) continues on the cassette in the next tape slot, and so on until the cassette in the highest numbered tape slot is reached.

↻ : Reverse mode. During playback, both sides of the tape are played back continuously until the tape has been played back 8 times (16 sides). During recording, both sides of the tape are recorded, and then tape transport stops.

- When relay mode is selected, after both sides of one cassette have been recorded or played back once, playback or recording continues on the cassette in the next tape slot, and so on until the cassette in the highest numbered tape slot is reached.

NOTE:

During recording, relay playback and random playback, the auto reverse function will only operate when the tape is moving from the end of side A to the beginning of side B.
The tape cannot move automatically from the end of side B to the beginning of side A during these modes (i.e., the tape will stop at the end of side B even when reverse mode is selected). This indicates that the cassette deck will switch automatically from side A to side B, but will not switch automatically from side B to side A. If, for example, recording is started from the beginning of side B, the tape will stop after only one side is recorded, even though reverse mode is selected.

⑭ COUNTER buttons

MODE: Each time this button is pressed, the multifunction display switches between tape counter display mode and time counter display mode.

RESET: When this button is pressed, the tape counter is reset to 0000 and the time counter is reset to 00:00.

⑮ DECK I operation buttons

These buttons operate in the same way as the operation buttons of DECK II, with the following exceptions:

Forward play (▶): If the tray is open when this button is pressed, it will close automartially, the cassette in the lowest numbered slot will be loaded, and side A will be played back.

Reverse play (◀): If the tray is open when this button is pressed, it will close automatically, the cassette in the lowest numbered slot will be loaded, and side B will be played back.

⑯ CD•DECK SYNCHRO recording button (CD SYNCHRO)

⑰ DOLBY* NR buttons

DOLBY NR MEMORY button:

Press this button to begin setting the DOLBY NR system, or to check the current DOLBY NR settings (see page 27).

DOLBY NR OFF/B/C button:

Press this button repeatedly to select the desired type of DOLBY NR. The selected type of DOLBY NR (B or C) is displayed. If no display appears, DOLBY NR OFF is selected.

When playing back Dolby NR-encoded tapes, always select the same position (OFF, B or C) used for recording.

*

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⑱ CASSETTE NUMBER buttons (1 ~ 6)

Press one of these buttons to select the cassette which will be loaded from the tray into the tape transport mechanism of DECK I.

⑲ PHONES jack (CT-WM70R only)

⑳ Remote control sensor window (CT-WM70R only)

㉑ DECK I OPEN/CLOSE button (⏏)

Press this button to open the cassette door. When the door is open, cassette tapes can be placed onto or removed from the tray. If a cassette is loaded in the tape transport mechanism (see page 7), the door can still be opened and tapes can be added or removed. However, DO NOT place a cassette in the tray slot previously occupied by the loaded cassette.

NOTE:
The cassette tray cannot be opened unless the POWER switch is turned OFF.